Section 2.0 - Commonwealth of VA Process Environment/Architecture

2.0.1 Introduction

During the Enterprise Applications due diligence assignment that concluded on June 10, 2005, the Commonwealth Partners enjoyed the opportunity to start building an understanding of the Commonwealth's business process environment and architecture through interaction with some of the Commonwealth's key leadership, business process owners, and subject matter experts in a representative selection of Executive Branch agencies. The scope of the Enterprise Applications due diligence was derived from the Enterprise Business Architecture (EBA), specifically calling out the four Functional Areas or "towers" of Administrative Management, Financial Management, Human Resources Management, and Supply Chain Management. These towers are where the Commonwealth perceives the greatest need for improvement and opportunity for enterprise business process reengineering and re-solutioning.

In partnership with Commonwealth leadership, and as part of a joint vendor team, the Commonwealth Partners participated in the development of a due diligence plan designed for information gathering through targeted interviews and an online survey involving 46 Executive Branch agencies over a period of several weeks. Furthermore, the due diligence plan allowed time for the Commonwealth Partners to analyze the information that had been gathered and assemble a high level process model of the Commonwealth's As-Is environment. Finally, the Commonwealth Partners synthesized information from the due diligence interviews and surveys with our own knowledge of best business practices for state and local government, considering also our experience with enterprise system implementations in other states and similar large public sector entities, to serve as inputs for business process reengineering and re-solutioning in the Commonwealth. The Commonwealth Partners look forward to the opportunity to work with the Commonwealth team to build a fully detailed To-Be process model for Enterprise Applications in the four Functional Areas of Administrative Management, Financial Management, Human Resources Management, and Supply Chain Management.

In reviewing the Commonwealth's existing business process environment and architecture that has evolved, we have adapted much of the material in this section from the Enterprise Applications Due Diligence report dated June 15, 2005.

Our evaluation of the existing environment and architecture focuses on its strengths and weaknesses in order to drive out the opportunities for improvement that will be discussed in greater detail in the following section "COVA Opportunities for Reengineering and Re-solutioning."

The Commonwealth Partners have observed that the Commonwealth of Virginia's operating model for service delivery and administration across the Executive Branch agencies is highly decentralized. This decentralized model with its underlying technologies generally provides adequate functionality to support the agencies' missions and, indeed, is sufficiently sophisticated and robust to bring the Commonwealth recognition as the best-managed state in the United States. Decentralization offers numerous advantages. It promotes ownership and fosters initiative

at the agency level. It allows for operational flexibility, ensuring that the systems under agency control remain responsive to the agency mission. After all, it is imperative for systems to serve the needs of the business, and not the other way around. However, the decentralized model is a costly one. It spawns duplication of effort and redundancy across agencies that cost the Commonwealth both financially and in staff productivity. Decentralization also allows for agency-specific views of data. However, enterprise views of the data are often not available, because the data is not standardized at the enterprise level. The Commonwealth desires to develop into a continuously improving organization, and as such, standardized data sets for metrics will be required. For these reasons, the decentralized model is falling out of favor with leading states and other large, public sector entities. The Commonwealth of Pennsylvania, for example, has completed an enterprise-wide implementation of an ERP software package that replaced its legacy financial "backbone" as well as budgeting, procurement, human resources, and payroll processes. The states of Florida, North Carolina, and Washington all have enterprise implementations underway, while numerous other states, such as New York, Ohio, and New Hampshire are in the preparatory stages.

The Commonwealth Partners believe that we can assist the Commonwealth of Virginia in evolving toward an enterprise business process model and architecture. The model and architecture will obtain the efficiencies, serviceability, and economies of scale of true Enterprise Applications, while at the same time preserving many of the key features and advantages of the decentralized model. We can do this by drawing on a deep reservoir of consulting skills and real-world project experience to:

- Construct a To-Be business process model that is infused with best business practices from the public sector and the Commonwealth Partner's deep experience with enterprise implementations
- Guide the Commonwealth in choosing, building, and managing a portfolio of enterprise solutions that support the To-Be process model based on leading technology

Before we share the details of the end-state vision for Enterprise Applications at the Commonwealth, we offer a detailed discussion of the features, strengths, and weaknesses of the existing enterprise process model and architecture that we observed during due diligence in each of the four main Functional Areas or Towers.

The next section is organized by the four main Functional Areas and then by processes within each functional area. The four Functional Areas are:

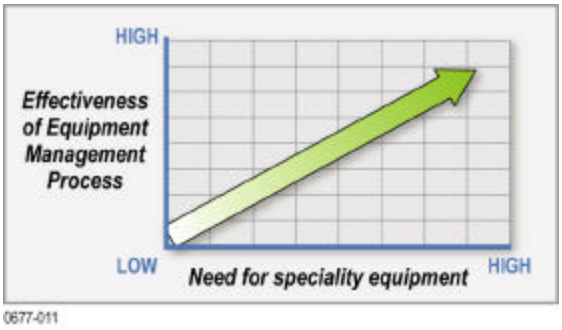
- Administrative Management
- Financial Management
- Human Resource Management
- Supply Chain Management

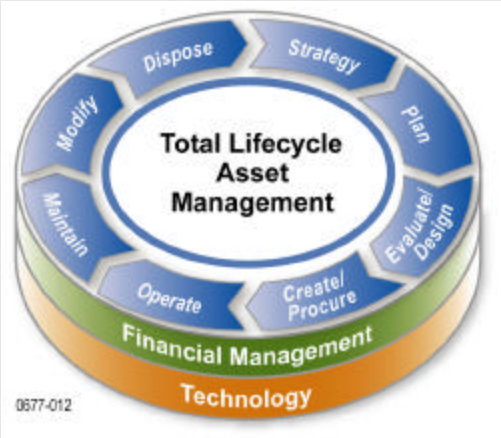
2.1 Administrative Management

The Administrative Management functional area includes the following processes:

- Equipment Management
- Facilities Management
- Fleet Management
- Travel

2.1.1 Equipment Management

Process Characteristic	Description
Process Description	Equipment Management involves the maintenance, administration, and operation of machinery and other capital assets that are possessions of the Commonwealth. This definition excludes information technology assets such as personal computers, servers and application software. These IT assets are managed independently by VITA.
Starting Points and Ending Points	Equipment Management begins with the equipment Acquisition Planning process. This sub-process identifies and acquires the equipment assets that the agency will require in order to fulfill its mission. Once acquired, the asset moves to the Operations and Maintenance sub-process where each item is deployed and utilized. Finally, as equipment assets approach the end of their useful life, the Retire Equipment sub-process evaluates the effectiveness of retro-fitting the asset to extend its useful life or determine the appropriate method of disposal. Refer to Figure 2-3: Equipment Management Decomposition chart.
Variations	There is a wide diversity of systems and adherence to the Equipment Management process within the Commonwealth. Some agencies, such as VDOT, have very well defined and disciplined processes while others do not. It is typical for an organization with a large amount of specialty equipment to be managed efficiently and the opposite for those without a large amount of specialty equipment (See Figure 2-1 below). VDOT's equipment base is characterized by assets that are often used across multiple projects, have regular preventative maintenance requirements, warranty agreements, and may have equipment usage charges. Other agencies that have very static or homogenous equipment bases (for example, those that have no specialty equipment and have only standard office equipment) are likely to be less structured in their Equipment Management processes. The more critical the equipment assets are to meeting the agencies' mission, the more emphasis is placed on Equipment Management. **Figure 2-1: Relationship of Equipment Management to Specialty Equipment** 
Blockages and fragmentations	The Commonwealth has a wide array of equipment categories with office equipment being the most common. Other equipment types include sophisticated laboratory and testing equipment, patient care equipment, vehicles, shop

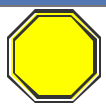
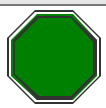
Process Characteristic	Description
	equipment, cooking equipment, law enforcement equipment, instructional equipment, and construction equipment. This diversity of equipment types coupled with high decentralized management approach has created a diverse assortment of processes and application systems. Equipment Management in some agencies is performed on paper while others use very complex in-house developed and maintained systems. This has created inconsistent processes, data capture and reporting capabilities, and non-compliance with best practices. More than half of the agencies surveyed during the due diligence phase reported that they do not take an asset lifecycle approach to Equipment Management. Many agencies also commented on their difficulties with obsolete equipment disposal as well as the lack of planned obsolescence, which are both a result of not having a full lifecycle approach. Figure 2-2 is a diagram showing the commonly accepted asset management life-cycle. **Figure 2-2: Asset Management Lifecycle**  Commonwealth Equipment Management processes should support all phases of the total lifecycle in order to optimize the amount of equipment retained by each agency, maximize the useful life of equipment, and properly plan and budget for future equipment needs.
Points of process intersection, integration, and conflict	The agencies surveyed during the due diligence phase provided information to indicate that only a small number use an Equipment Management system that reflects best practice techniques. Most are using spreadsheets, Access databases, and paper logs. This has severely limited the amount of system integration or even the opportunity for such integration to occur. Where Commonwealth processes intersect (i.e. Equipment Management and Supply Chain Procurement) the handoff is mostly a manual effort.
Controls	Without an enterprise-wide Equipment Management system or a Standard Commonwealth policy addressing Equipment Management, the controls and audit capabilities of the Commonwealth are somewhat limited. For example, while many agencies reported that a repair work order required management approval prior to work being conducted, the same agencies indicated that they validated repair requests after the PO had been generated.
Points of redundancy and duplication of efforts and data	The agencies that responded to the due diligence surveys indicated that duplicate data entry was a part of their standard processes. The amount of time spent on duplicate data entry varied from 1% to as high as 20%. This is not surprising since such a large number of agencies use stand-alone applications for Equipment Management. Data is not only re-entered numerous times into multiple systems, but at times also written to manual records. The labor spent on entry of data as well as retrieval of information is higher then it could be. This also opens up the opportunity for incorrect and inconsistent data.
System instances and interfaces	Commonwealth agencies have invested in a variety of applications to track and manage equipment. These applications range from sophisticated agency-level systems, locally maintained spreadsheets and small databases, to

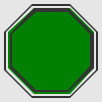
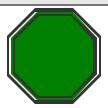
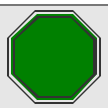
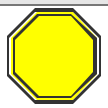
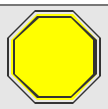
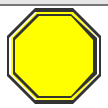
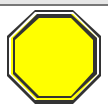
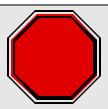
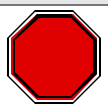
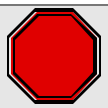
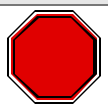
<table>
<tr><th>Process Characteristic</th><th>Description</th></tr>
<tr><td></td><td>Commonwealth enterprise level applications (FAACS). Agencies with large quantities of equipment and complex maintenance requirements such as VDOT and DMH use high-end Equipment Management systems while agencies with low equipment volume such as DOAV and DPB solely use FAACS. There are a large number of agencies between these two extremes that use a variety of systems (often piece meal) to meet their needs. Table 2-1 below classifies the applications used throughout the Commonwealth.
Table 2-1: Equipment Management Applications in Use
<table>
<tr><th></th><th>FAACS</th><th>LAS</th><th>An Equipment Management System</th><th>Spreadsheets or MS Access Databases</th><th>Manual Records</th></tr>
<tr><td>Number of agencies reporting usage of these systems</td><td>17</td><td>4</td><td>3</td><td>10</td><td>16</td></tr>
</table></td></tr>
<tr><td>Process orientation</td><td>Equipment Management within the Commonwealth is highly decentralized and is the responsibility of each individual agency. Other than the requirement to post equipment assets of $5,000 or more to the FAACS Fixed Assets System, there are not any state level policies or guidelines for Equipment Management. Policies and procedures within the agencies vary.</td></tr>
<tr><td>Sourcing arrangements</td><td>Most of the Equipment Management functions are performed in-house within each agency.</td></tr>
</table>

Equipment Management Strengths and Weaknesses

During the due diligence process the agencies were asked to identify the specific strengths (designated by a green indicator) and weaknesses (designated by a red indicator) of the Equipment Management process. Table 2-2 is a summary of the feedback received from the agencies, the Commonwealth Partners assessment of the impact of the strength or weakness on the process and the rationale for the designation. Unless specifically highlighted, the Commonwealth Partners concurs in the assessment of the Commonwealth staff.

Table 2-2: Equipment Management Strengths and Weaknesses

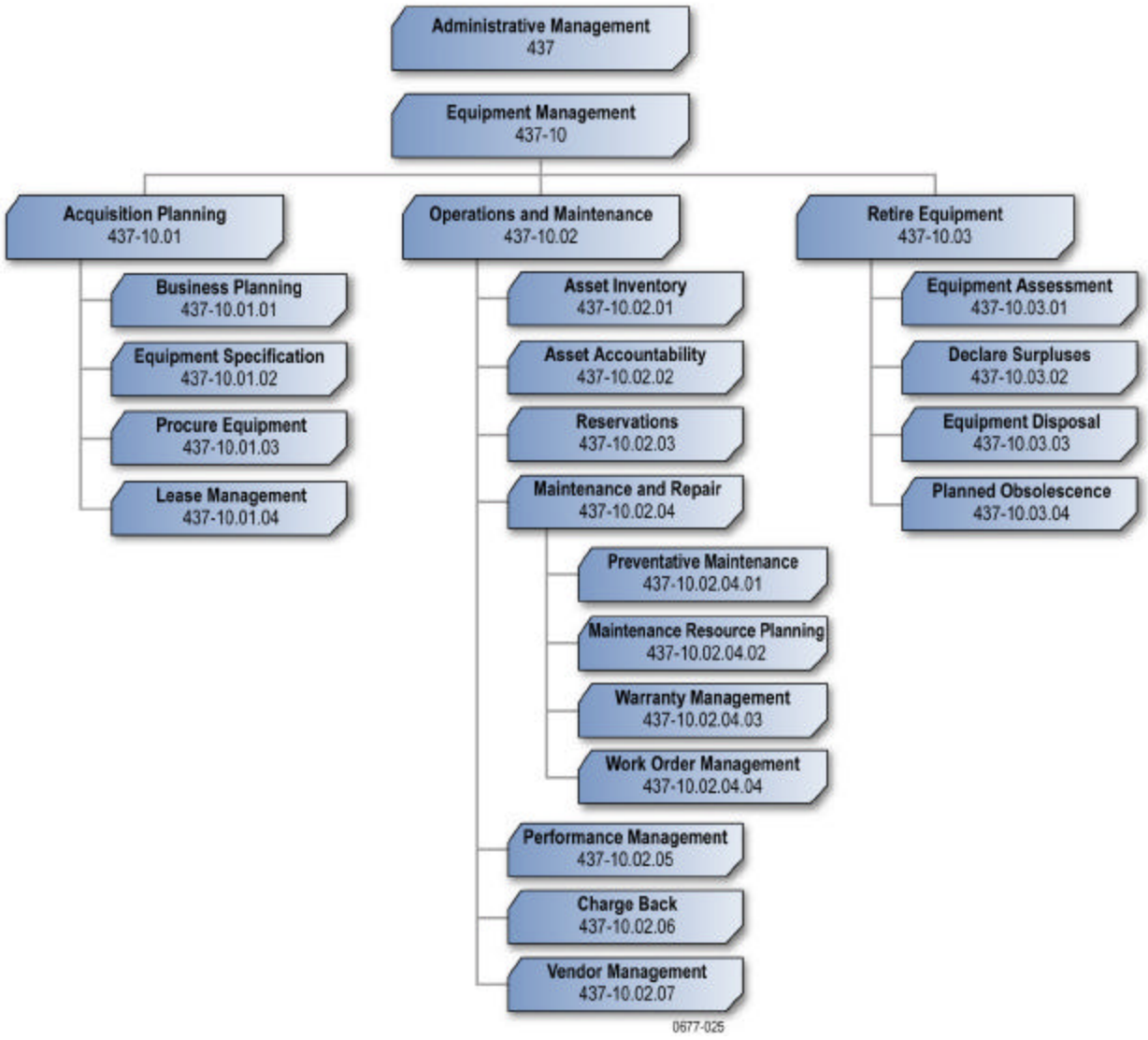
Risk Indicator	Strength or Weakness Description	Impact	Rationale
	Equipment Tracking	High	All agencies evaluated during the due diligence phase reported some method for tracking equipment. There are diverse parameters used by agencies to determine what equipment is tracked. Some adhere to the DOA rule of $5,000, while others such as State Police track all equipment to a specific officer or facility. Approximately 60% of the agencies surveyed track all equipment assets.
	Equipment location tracking	Low	The vast majority of agencies (92% of surveyed agencies) track equipment location information. Some agencies, such as DMH have indicated that there are process issues with keeping this information current.
	Warranty tracking	Med	The majority of agencies (70% of surveyed agencies) track warranty information.

Risk Indicator	Strength or Weakness Description	Impact	Rationale
	Work Order Policies	Med	The majority of agencies (74% of surveyed agencies) have an approval process for equipment work order information.
	Equipment Identification	Med	Most agencies (66% of surveyed agencies) reported use of numbered equipment and bar code tags , e.g., DGS for scientific equipment.
	Equipment Accountability	Med	A responsible party (end user, manager, or equipment coordinator) has been assigned to each piece of equipment in 100% of the responding agencies.
	Lifecycle approach to equipment management	Med	The majority of agencies (65% of surveyed agencies) do not have a lifecycle approach for managing equipment.
	Standard replace-repair policies	Low	The majority of agencies (78% of surveyed agencies) do not have a policy for determining equipment repair versus replace.
	Maintenance management	Med	Many agencies (42% of surveyed agencies) do not monitor equipment repair or maintenance work in progress and report time against it.
	Equipment scheduling	Low	For the few agencies that schedule equipment usage, only 17% of responding agencies utilize an automated process to reserve and schedule equipment use.
	Use of tracking technologies	Low	Limited use of bar code for equipment tracking.
	Use of an automated Equipment Management system	High	The majority of agencies (63% of surveyed agencies) do not have automated Equipment Management systems. Most agencies use assorted systems in order to manage equipment.
	Redundant data entry	High	Amongst the agencies that responded, the amount of duplicate entry varied from 1% to as high as 20%.
	Equipment surplus and disposal	High	A number of agencies commented on the difficulty of surplus and the disposal of equipment.
	Warranty information consistently recorded and tracked.	High	Approximately 76% of the agencies that responded track equipment warranty. Of those that track warranties, 39% track this manually. With such a high number of agencies not tracking warranties or tracking it manually, the effectiveness of the Commonwealth's warranty management is questionable. Effective warranty management is a key indicator of total cost of ownership management.
	Inconsistent data and reporting capabilities	Med	Due to the diverse application tools used for Equipment Management there is no common set of data that can be captured. Without standardized data capture there is no ability to establish a common performance metric or a common set of management reports.

Equipment Management Decomposition

The process decomposition in Figure 2-3 was created based on information gathered during the due diligence phase of the Enterprise Applications PPEA. The decomposition is a composite of process entities gathered from the 30 responding agencies. Thus, not all agencies are performing each function.

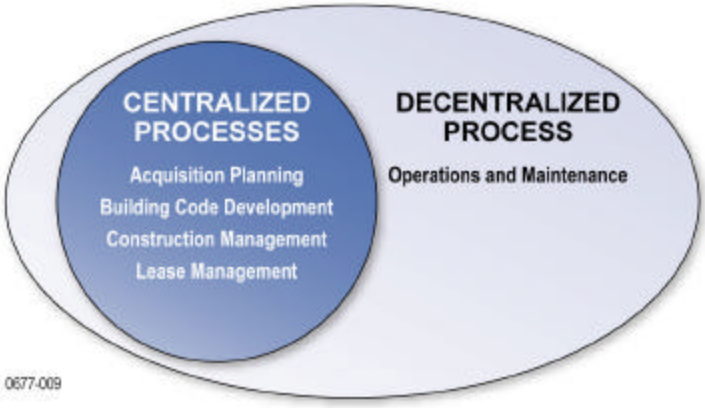
Figure 2-3: Equipment Management Decomposition Chart



Conclusion

The Commonwealth has a diverse set of Equipment Management requirements driven by distinct and varying levels of equipment types and complexity. This has led to a large group of agencies having enough need that they have managed equipment by whatever process and technologies work for them at the time or were available. These agencies should be commended for their ingenuity to get the job done. However, this has evolved into highly stove-piped processes with the use of less then adequate supporting technologies.

2.1.2 Facilities Management

Process Characteristic	Description
Process Description	Facilities Management involves the maintenance, administration and operation of office buildings, other buildings and parking facilities that are owned or leased by the Commonwealth. The Commonwealth owns or leases a vast array of properties. The Commonwealth's portfolio includes approximately 360,000 acres of land, 13,000 buildings and 117 million square feet of space. In addition, the Commonwealth has approximately 1,500 leases for an additional 14 million square feet of office space. See Figure 2-5 Facilities Management Decomposition chart.
Starting Points and Ending Points	Facilities Management begins with the facility Acquisition Planning process. This sub-process identifies and acquires the facilities assets that the agencies will require in order to fulfill their mission. Once acquired, the asset moves to the Operations & Maintenance sub-process where it is occupied and maintained. Finally, as facility assets approach the end of their useful life the Retire Facilities sub-process evaluates the effectiveness of retrofitting the asset to extend its useful life or determines the appropriate method of disposal. Other subtasks managed by DGS include Building Code Development (where statewide building codes are developed and education is provided), Construction Management (where construction project oversight occurs and building codes are enforced), and Lease Management (where facility space is acquired on leased basis). See Figure 2-5 Facilities Management Decomposition Chart
Variations	The Commonwealth is working to centralize control over the acquisition and utilization of facilities. There are mature policies and processes for obtaining state-owned space. The Commonwealth is working to implement similar controls for the management of leased space. Other aspects of Facilities Management, such as interior space planning, renovations, housekeeping and building maintenance are highly decentralized. Agencies vary in the scope and complexity of their Facilities Management operations based upon their missions. **Figure 2-4: Centralized Versus Decentralized Processes** 
Blockages and fragmentations	As previously stated there are several processes that have been centralized within DGS including responsibility for Facility Maintenance and Operation for the Richmond Capital Plaza. Beyond DGS, the processes become very decentralized and inconsistent. The APA report states that 42% of agencies do not have preventative maintenance programs, 53% do not have an automated system to track maintenance, and 36% do not track deferred maintenance. There are several enterprise-wide processes that need to be re-designed and require a software implementation to operate at an optimal level. For example, the real estate inventory database for the Commonwealth is lacking data integrity due to inconsistent agency updates. Another example is the inability to systematically attach employees to facilities or specific space, which hampers space utilization planning efforts.

<table>
<tr><th>Process Characteristic</th><th>Description</th></tr>
<tr><td></td><td>As reported in the “APA Review of Deferred Maintenance in the Commonwealth” the Commonwealth has over $1Billion in identified deferred building maintenance. This deferment represents a large financial liability for the Commonwealth and is a clear indicator of the overall condition of Commonwealth facilities.

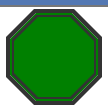
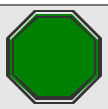
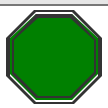
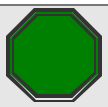
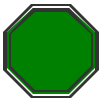
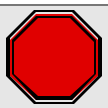
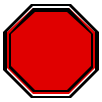
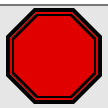
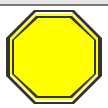
The Commonwealth is currently implementing VFA Facility a facilities assessment application software package. This system, along with the associated engineering and architect services, captures facility assessment and condition data. The data can then be used for facilities budget and maintenance planning. The VFA system is currently being used by APA, VADOC, and VDOT.</td></tr>
<tr><td>Points of process intersection, integration, and conflict</td><td>From the agencies surveyed during the due diligence phase, only a small number use an actual Computer Aided Facilities Management system. Most are using spreadsheets, Access databases, and paper logs, as well as other Commonwealth systems such as FAACS, LAS, and PLATS. These diverse applications severely limit the amount of system integration or opportunity for such integration to occur. Process flow, information flow, auditing, performance measurement all appear to be somewhat disjointed. At the point where Commonwealth processes intersect (i.e., Financial Management and Supply Chain Procurement) the handoff is mostly a manual effort.</td></tr>
<tr><td>Controls</td><td>Without an enterprise-wide Facilities Management system or a standard set of Commonwealth policies and procedures for addressing Facility Management, the controls and audit capabilities of the Commonwealth are somewhat limited. For example, there is no accurate and complete inventory of all Commonwealth buildings identifying building components or their current physical condition. Another example is that 53% of agencies surveyed do not track facility maintenance and few can accurately define maintenance costs or predict future maintenance requirements.</td></tr>
<tr><td>Points of redundancy and duplication of efforts and data</td><td>The due diligence phase did not yield any data that specifically addressed redundancies and duplication. It is clear that process and supporting applications are fragmented and disjointed. Based on these facts we can assume that there is a signification amount of redundancy in overlapping process as well as duplication of data. It would also not be unexpected that there would be inconsistency with the data as well.</td></tr>
<tr><td>System instances and interfaces</td><td>Commonwealth agencies have invested in a variety of applications to manage facilities. These applications range from sophisticated agency-level systems, locally maintained spreadsheets and small databases, to Commonwealth enterprise level applications (FAACS). Agencies responsible for large quantities of floor space tend to have more complex systems while agencies with less space tend to use less sophisticated systems. Table 2-3 below classifies the applications used throughout the Commonwealth.

Table 2-3: Facilities Management Applications in Use
<table>
<tr><th></th><th>FAACS</th><th>LAS</th><th>A Facilities Management System</th><th>Spreadsheets or Access Databases</th><th>Manual Records</th></tr>
<tr><td>Number of agencies reporting usage of these systems</td><td>19</td><td>3</td><td>3</td><td>8</td><td>3</td></tr>
</table></td></tr>
<tr><td>Process orientation</td><td>Even though some aspects of Facility Management are centralized within DGS, the majority of Operations and Maintenance is highly decentralized and is the responsibility of individual agencies. There are few Commonwealth-wide policies or guidelines for Facilities Management and without an enterprise level framework most policies and procedures are defined within the agencies.</td></tr>
<tr><td>Sourcing arrangements</td><td>Facilities management functions are performed within the Commonwealth by DGS for several centralized functions such as building code enforcement while most facilities Operations and Maintenance functions are de-centralized, and performed by the individual agencies.</td></tr>
</table>

Facilities Management Strengths and Weaknesses

During the due diligence process the agencies were asked to identify the specific strengths (designated by a green indicator) and weaknesses (designated by a red indicator) of the Facilities Management processes. Table 2-4 is a summary of the feedback received from the agencies, the Commonwealth Partners assessment of the impact of the strength or weakness on the process and the rationale for the designation. Unless specifically highlighted, the Commonwealth Partners concur in the assessment of the Commonwealth staff.

Table 2-4: Facilities Management Strengths and Weaknesses

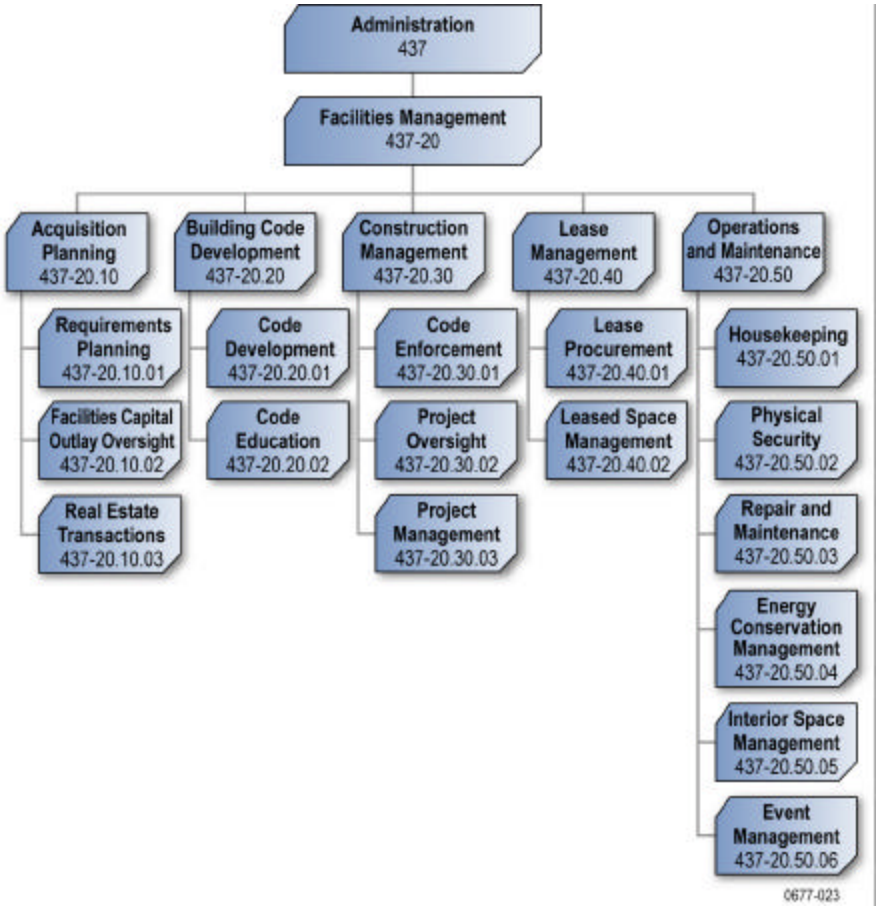
Risk Indicator	Strength or Weakness Description	Impact	Rationale
	Comprehensive reengineering of Facilities Management processes	High	Current executive orders provide the direction for making comprehensive changes in the way real estate and facilities are managed.
	Consistent management processes	High	The oversight of processes for managing Commonwealth-owned real estate is highly centralized. As a result, policies appear to be consistently implemented across agencies.
	Consolidation of lease management	High	The Commonwealth is implementing processes and organizational changes to better control the acquisition and utilization of leased space.
	Housekeeping for state-owned facilities	Med	Agencies are generally satisfied with the quality of services and maintenance they receive from either DGS or their landlord, in the case of leased property.
	Improving management efficiency	High	Large agencies have invested resources in property management systems to monitor the material condition of state-owned facilities and to track and prioritize maintenance investments. Agencies are also experimenting with new technologies to improve the efficiency of maintenance.
	Use of Automated Facilities Management system	High	The majority of agencies (53% of agencies) do not have automated Facilities Management systems. Most agencies use assorted disjointed systems in order to manage facilities.
	Use maintenance management	High	Many agencies do not track facilities maintenance. These agencies do not have funding for comprehensive facility management systems. Many operate in a reactive maintenance mode, which is more costly then preventative maintenance.
	Inconsistent data and reporting capabilities	High	Do to the diverse application tools used for Facilities Management there is no common set of data captured. Without standardized data there is no ability to establish common performance metrics or a common set of management reports.
	Construction project documentation requirements	Med	The documentation requirements associated with the Capital Outlay process are perceived as cumbersome. In some cases, these requirements conflict or duplicate other documentation requirements.

Risk Indicator	Strength or Weakness Description	Impact	Rationale
	Duplicate Data	High	There is no single authoritative source of information that identifies and describes state-owned facilities. There is duplicative and probably inaccurate information in numerous systems. Each system is designed to address a specific agency reporting or administrative requirement.

Facilities Management Process Decomposition

The process decomposition in Figure 2-5 was created based on information gathered during the due diligence phase of the Enterprise Applications PPEA. The decomposition is a composite of process entities gathered from the 29 responding agencies. Thus, not all agencies are performing each function.

Figure 2-5: Facilities Management Decomposition Chart



Conclusion

The Commonwealth continues improving its Facilities Management processes and services through several initiatives derived from Governor Warner's Real Estate Initiative. Examples include the implementation of tools such as VFA Facility to improve planning and budgeting of Capital Outlay projects and the creation of Real Estate Services department within DGS.

However these and other programs still leave the Commonwealth without an enterprise-wide approach to Facilities Management. Business processes, data, software systems, planning, and budgeting are still fragmented. Substantial room for improvement still exists and the Commonwealth Partners believe that these improvements can build on the Commonwealth's past success and strengths while continuing to drive down overall facilities costs.

2.1.3 Fleet Management

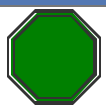
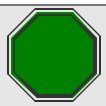
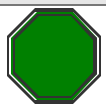
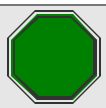
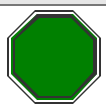
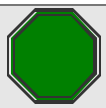
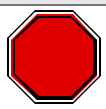
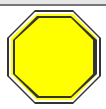
Process Characteristic	Description
Process Description	Fleet Management involves the maintenance, administration, and operation of fleets (cars, trucks, aircraft, watercraft) that are owned or leased by Commonwealth. Over 20,000 vehicles are owned by the Commonwealth. DGS has overall responsibility for passenger vehicles, and other agencies use these pooled vehicles. However, SUVs, pickup trucks, and other types of fleet such as ATVs, airplanes are typically agency owned. Virtually all agencies own at least some vehicles.
Starting Points and Ending Points	Fleet Management begins with the Fleet Acquisition Planning process. This sub-process of Fleet Management identifies and acquires the fleet assets that the agency will require in order to fulfill its mission. Once acquired, the vehicle moves to the Operations & Maintenance sub-process where is item is deployed and utilized. Finally, as fleet assets approach the end of their useful life the Surplus Disposal sub-process determines the appropriate method of disposal. See Figure 2-6: Fleet Management Decomposition chart below.
Variations	There are a few variations to the Fleet Management process due to the fact that there are many types of vehicles owned by the Commonwealth. The vehicles are broken down into two main categories: passenger and non-passenger. Passenger vehicles include cars, vans, station wagons, and sport utility vehicles. Non-passenger vehicles include trucks and all other vehicles. The Code of Virginia states that all passenger vehicles purchased with public funds by any State agency, institution, or employee must be assigned to the centralized fleet (controlled by DGS). DGS controls passenger vehicles, and leases approximately 4,000 passenger cars and minivans (about 2,000 in the Richmond area) to other agencies. All DGS cars are pooled. However, the Code also states that there are four categories of vehicles that are exempt from this requirement: ▪ Vehicles that have special equipment or performance requirements for use by law-enforcement officers ▪ Vehicles that are used by elected officials ▪ Vehicles that are owned by the Virginia Department of Transportation ▪ Any other special category of vehicle designated by the fleet administrator. (DGS does not supply SUVs, pickup trucks, or non-passenger vehicles as part of its fleet.) Virtually all agencies own some type of vehicle.
Blockages and fragmentations	There is no consolidated view of fleet information in the Commonwealth. It is not currently possible to go to one system and have a comprehensive view of vehicle information. While some agencies have fleet policies and procedures in place, many are insufficient. Information about usage, assignment, and maintenance is not consistently or adequately recorded. The Commonwealth has a number of fleet categories, including pooled passenger cars, state police vehicles, VDOT vehicles, as well as agency owned vehicles. The Acquisition process has common procedures for some vehicle types, but policies vary widely. Maintenance processes are handled differently and inconsistently across vehicle type and agencies. Although VDOT performs a significant amount of maintenance on DGS and other agency owned vehicles, this is not mandatory.

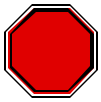
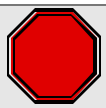
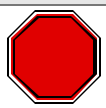
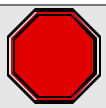
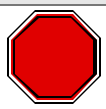
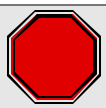
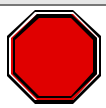
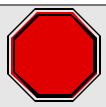
<table>
<tr><th>Process Characteristic</th><th>Description</th></tr>
<tr><td>Points of process intersection, integration, and conflict</td><td>Fleet processes vary widely depending on the vehicle type and the owning agency. Some agencies implement Fleet Management processes informally and inconsistently. Those with larger fleets typically have well defined processes. Yet there is little standardization of processes across agencies.
Points of process intersection, integration, and conflict:
The acquisition process for passenger vehicles has some commonality, because the acquisitions all need to be approved by DGS.
The maintenance process has some intersection between VDOT and many other agencies, because a significant number of repairs are performed in VDOT shops.
The disposal process typically, but not always involves DGS.
Vehicles are tracked in multiple systems by different agencies, including:
Agency - DGS
Agency - DMV
STARS system
FAACS fixed asset system</td></tr>
<tr><td>Controls</td><td>Since there is no enterprise-wide Fleet Management system or enterprise-wide policies and procedures addressing Fleet Management, the controls and audit capabilities of the Commonwealth are somewhat limited. For example, an APA audit found it difficult to reconcile the number of vehicles in service, even by using multiple systems, such as DMV registrations and various databases.</td></tr>
<tr><td>Points of redundancy and duplication of efforts and data</td><td>Vehicle maintenance is not always tracked nor recorded consistently when it is performed. This leads to redundancies and the possibility of duplicate effort.</td></tr>
<tr><td>System instances and interfaces</td><td>VDOT uses EMS for fleet management.
DGS is implementing FASTER
FAACS – Fixed Asset Accounting and Control System
DMV – Citizens Service System
DMV – STARS (State Agency Titling and Registration system)
Commonwealth agencies have invested in a variety of applications to track and manage fleet. These applications range from sophisticated agency-level systems, locally maintained spreadsheets and small databases, to Commonwealth enterprise level applications (FAACS). Agencies with large quantities of fleet and complex maintenance requirements such as VDOT and DMH use high-end Fleet Management systems while agencies with low fleet volume such as DOAV and DPB solely use FAACS. There are a large number of agencies between these two extremes that use a variety of systems (often piece meal) to meet their needs. Table 2-5 below classifies the applications used throughout the Commonwealth.
Table 2-5: Fleet Management Applications in Use<table><tr><th></th><th>FAACS</th><th>LAS</th><th>A Fleet Management System</th><th>Spreadsheets or Access Databases</th><th>Manual Records</th></tr><tr><td>Number of agencies reporting usage of these systems</td><td>17</td><td>4</td><td>3</td><td>10</td><td>16</td></tr></table></td></tr>
<tr><td>Process orientation</td><td>Fleet Management policies, processes, and procedures within the Commonwealth vary greatly. While certain functionality is centralized, e.g. passenger car fleet management, most functionality is decentralized.</td></tr>
<tr><td>Sourcing arrangements</td><td>Fleet Management functions are performed within the Commonwealth. DGS provides a certain level of centralized functions (such as managing vehicle pools) while individual agencies are responsible for other functions. The notable exception is that vehicle maintenance is often contracted to outside automotive repair centers.</td></tr>
</table>

Fleet Management Strengths and Weaknesses

During the due diligence process the agencies were asked to identify the specific strengths (designated by a green indicator) and weaknesses (designated by a red indicator) of the Fleet Management process. Table 2-6 is a summary of the feedback received from the agencies, the Commonwealth Partners assessment of the impact of the strength or weakness on the process and the rationale for the designation. Unless specifically highlighted, the Commonwealth Partners concurs in the assessment of the Commonwealth staff.

Table 2-6: Fleet Management Strengths and Weaknesses

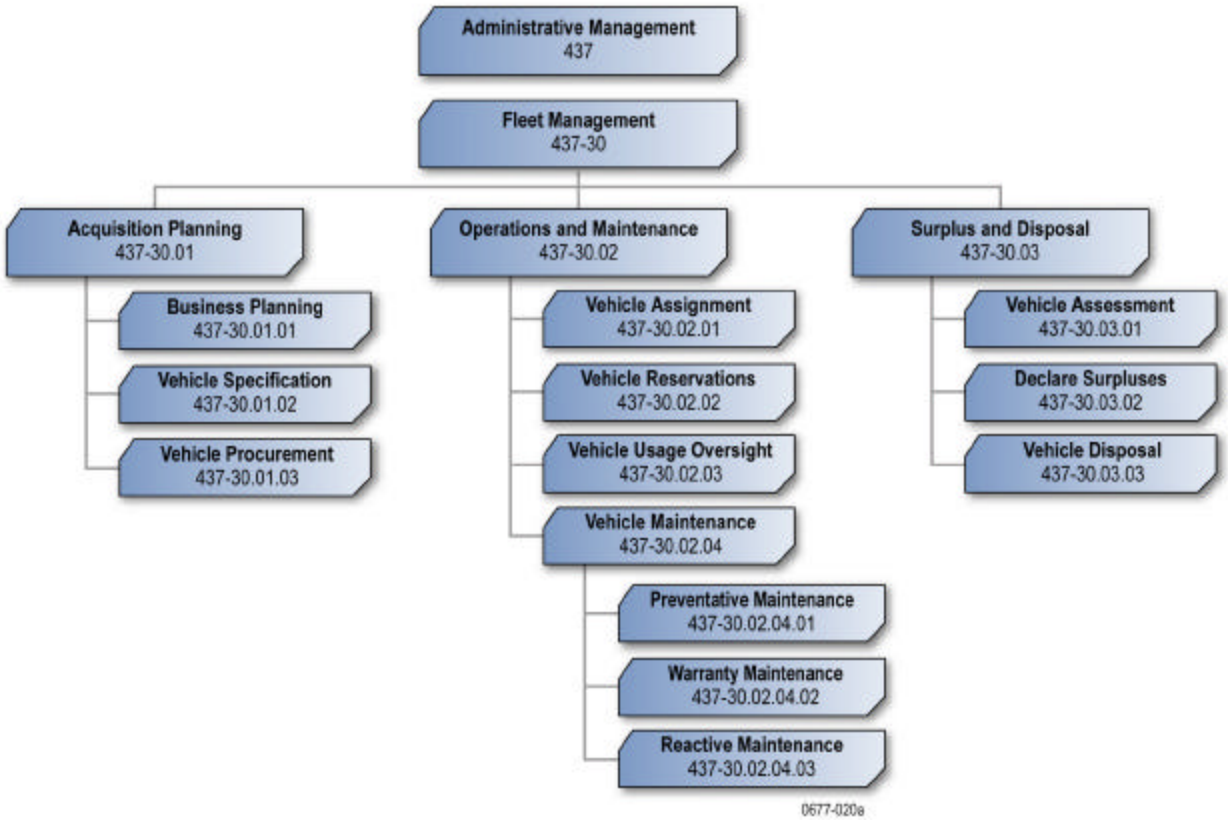
Risk Indicator	Strength or Weakness Description	Impact	Rationale
	Equipment Management System (EMS)	Medium	Existing VDOT Equipment Management system is an in-house developed, mainframe based system. It works well for collection and reporting of data used for inventory and repair/maintenance of VDOT vehicles.
	Appropriate Use	Medium	The JLARC study found that the policies in the Code of Virginia, executive orders, and Fleet Management regulations are effective. During FY2003, there were only 20 complaints from citizens, three complaints concerning misuse, the rest being accusations of employees speeding or driving recklessly.
	Centralized Procurement and Management (Fleet)	High	Ownership of passenger vehicles is mostly centralized under DGS. This frees many agencies from the overhead of the lifecycle activities of maintaining a fleet.
	Fuel Cards	High	The Voyager fleet fuel card is used by DGS, VDOT and other DGS approved agencies. This allows better control over fuel expenses. The cards can be assigned to individuals or vehicles.
	Fleet Availability	High	Agency employees are generally satisfied with the amount, types, and quality of fleet vehicles. Agency employees are not handicapped performing their responsibilities because of fleet shortcomings.
	Maintenance Control center	High	DGS is implementing a maintenance control center to manage preventive and unscheduled repairs for its fleet.
	Key Process Indicators (KPI)	High	Most agencies do not have key performance measures/indicators for Fleet Management. Approximately 78% of agencies surveyed do not have KPIs
	Lifecycle approach	High	Most agencies (70% of surveyed agencies) do not have a fleet lifecycle approach within the organization. This prevents analysis of vehicle type, to determine if another vehicle might be more cost-effective. Also, there is limited data for review of the rental rate structure and the minimum mileage criteria for fleet vehicles.
	Tracking personal mileage reimbursements	Low	This is not currently tracked. There may be cases where usage of a fleet vehicle is more cost effective then using personal vehicles.
	Commuting fees	Low	Many employees do not reimburse the Commonwealth for commuting fees. The Commonwealth needs to charge employees the appropriate fee for commuting in a Commonwealth-owned vehicle.

Risk Indicator	Strength or Weakness Description	Impact	Rationale
	Minimum mileage requirements	Medium	There may be fleet vehicles that should be recalled because they did not travel enough miles to justify their continued usage.
	Oversight	Medium	Reviews are not thorough concerning purchase requests, and nearly all requests are approved.
	Scheduling	Medium	There is little current ability to track/schedule maintenance. It would be useful to be able to schedule preventive and predictive maintenance.
	Recalls	Medium	There is no systematic way to be able to react to recalls. When recalls occur, a means to schedule and track completion would be beneficial
	Analysis	Medium	Data for repair/replace analysis. Data is not captured in order to support repair/replace analysis. If it were available, analysis might yield different repair/replace recommendations.
	Tracking	High	There is a need for a consistent labor/parts numbering system to identify repair and maintenance activities down to the assembly level for repair history data. VDOT Equipment (Fleet) Management plans to implement the use of the American Trucking Association Vehicle Maintenance Repair Schedule (VMRS) Codes. Standardization of the reporting of these repair activities will improve data collection and reports results.
	Maintenance Tracking	High	Most agencies (60%) track maintenance history on each vehicle manually.
	State Police Oversight	High	State Police vehicles, of which there are a large number, are maintained by the trooper to which they are assigned.

Fleet Management Decomposition

The process decomposition in Figure 2-6 was created based on information gathered during the due diligence phase of the Enterprise Applications PPEA. The decomposition is a composite of process entities gathered from the 30 responding agencies. Thus, not all agencies are performing each function.

Figure 2-6: Fleet Management Decomposition Chart



Conclusion

The Commonwealth has several business processes within Fleet Management that are performing at a high level. However, there are areas of strength that we believe can be further leveraged and other processes where substantial opportunity exists for improvement.

The passenger car fleet is being centralized under DGS and the Commonwealth Partners support current plans and improvement projects. For non-passenger vehicles, we believe the acquisition, operations and maintenance, and disposal of non-passenger vehicles would be greatly improved by two changes:

- Enterprise level Policies and Procedures need to be defined addressing all aspects of fleet management. These processes should integrate and strengthen suite of tools used in fleet management.
- A standard suite of systems needs to be implemented to record, track, and analyze usage and maintenance in order to facilitate compliance with these policies and procedures and fully realize the operational efficiencies that are possible.

The Commonwealth has multiple systems in place today to track and manage Fleet vehicle information. Currently, those systems are not synchronized and there is no single, reliable data source that accurately records vehicle information. Leveraging a Fleet management system across the Commonwealth can better identify positive changes to existing processes, as well as streamlining and improving existing ones to generate a more efficient and productive fleet.

2.1.4 Travel

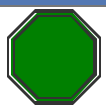
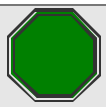
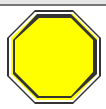
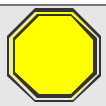
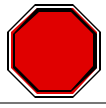
Process Characteristic	Description
Process Description	Travel involves the activities associated with planning, preparing, monitoring of business related travel for an organization's employees. See Figure 2-7: Travel Process Decomposition Chart below.
Starting Points	There are three sub-processes involved in the Travel process as outlined below: 1. Authorization and Travel Requests Authorization is required before a Commonwealth employee can make a travel request. The travel generally falls into the following three categories: 1) Conference and Training 2) International and 3) Travel Advance 2. Reservation and Trip Planning Reservation and Trip planning is performed at the agency level. This is not a centrally provided service 3. Travel Reimbursement A single form is often used for both travel authorization approval process and for travel reimbursement. The agencies recognize the need for prompt reimbursements.
Ending Points	Each of the sub-processes above has a different end point. Some of them are: Approved for travel, travel reserved and reimbursement made for the travel.
Variations	Travel policies are highly developed and structured in the Executive Branch agencies. Executive Branch agencies are authorized to adopt supplemental policies and more restrictive procedures to assist agencies in managing their resources. Legislative, Judicial, and Independent agencies may establish their own travel policies and regulations. State regulations are designed to ensure that all travel is reasonable and necessary. The use of State funds to accommodate personal comfort, convenience, and taste is not permitted. A review of the agencies found that 100% of the responding agencies require supervisory approval prior to traveling with 73% of agencies maintaining supplemental and more restrictive travel policies. These more restrictive policies include procedures on: ▪ Out-of-state travel ▪ Reimbursement procedures ▪ Meal allowances ▪ Auditing Procedures ▪ Non-compliance procedures There are variations between agencies on how the travel process – predominately a manual process is handled. These variations between agencies exist at the sub-process level; travel authorization and travel requests, travel planning and travel reimbursement. One common example is the approval levels required by a given agency. These are sometimes based on planned expenditures and will vary by agency.
Blockages	The travel process is a manual process and is fragmented. The initiation (authorization and request) occurs at the department level and the reimbursement to the employee is made centrally. Since this is a manual process, much of the process is done via paper so a potential blockage is the routing and maintenance of the paper form. Agencies recognize the need for prompt reimbursement and most agencies can consistently meet this objective.
Points of process intersection, integration, and conflict	There are some intersections and integration points between the travel process and other processes at the Commonwealth. All reimbursement of travel costs eventually becomes financial transactions. Since the travel process is a manual process there may be a time delay related to when the transaction actually gets posted. This could result in a conflict during year end close. Another example of intersection between the travel area and other processes is the establishment of approved lodging (hotels and motels) vendors – a process that is usually done by central procurement and then setup in a central financial system by the Accounts Payable department to designate acceptable vendors for travel process use.

Process Characteristic	Description
Controls	The Travel process does include some controls, predominately as part of the manual approval process. In order to initiate travel the employee must obtain authorization from the appropriate approver. This authorization serves as a control mechanism in the travel process.
Points of redundancy	Due to the manual travel process at the Commonwealth there are a few redundancies and duplication of effort in this process. The approval for travel occurs three times, once in the beginning of the process and then again when the employee is getting reimbursed and then a third time when the payable is due to the vendor.
System instances and interfaces	There is no automated travel system. The interface is to CARS when it becomes a vendor payable and then again when the employee is reimbursed.
Process orientation	The travel process is oriented both internally with Commonwealth employees (approximately 75% from the due diligence survey) and contractors (approximately 25% from the due diligence survey).
Sourcing arrangements	The travel process is performed in-house.

Travel Strengths and Weaknesses

During the due diligence process the agencies were asked to identify the specific strengths (designated by a green indicator) and weaknesses (designated by a red indicator) of the Finance Processes. Table 2-7 is a summary of the feedback received from the agencies, the Commonwealth Partners assessment of the impact of the strength or weakness on the process and the rationale for the designation. Unless specifically highlighted, the Commonwealth Partners concur in the assessment of the Commonwealth staff.

Table 2-7: Travel Strengths and Weaknesses

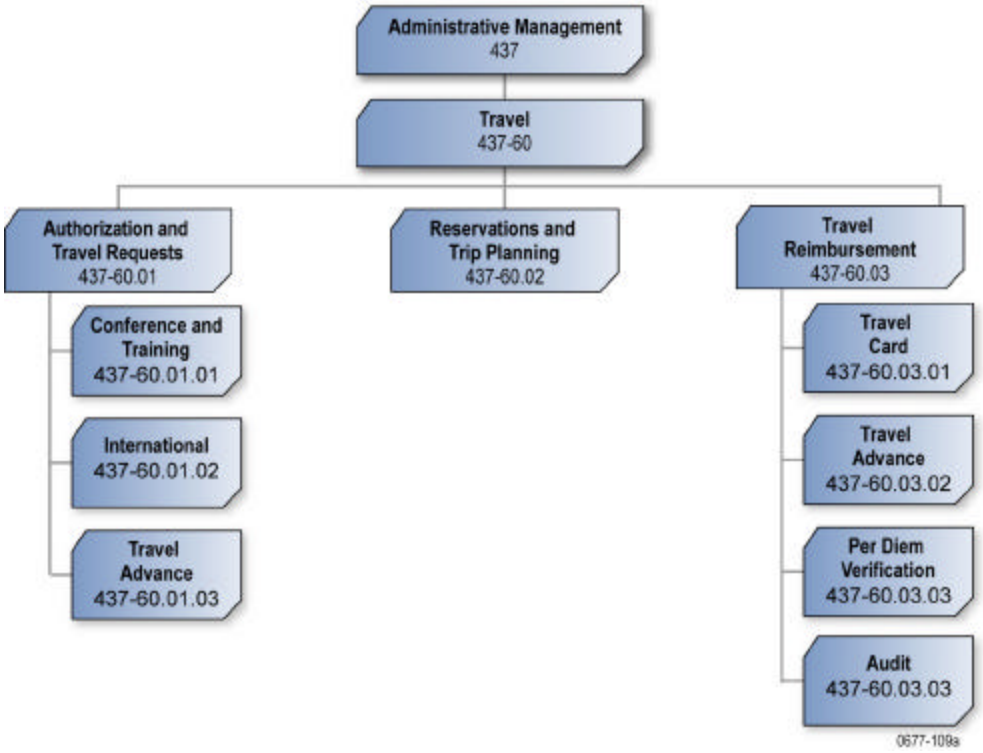
Risk Indicator	Strength or Weakness Description	Impact	Rationale
	Travel policies. Travel policies are clearly documented and disseminated.	Medium	Travelers can easily obtain the policy and understand the rules, regulations and their intent.
	Prompt reimbursements.	High	Agencies recognize the need for prompt reimbursement of out-of pocket travel expenses. Survey responses indicated that agencies consistently meet this objective.
	No enterprise-wide hotel contracts.	High	The Commonwealth has no enterprise-wide travel agency or lodging contracts to ensure reasonable rates for the level of business provided by State employees.
	Too many different per diem rates.	Medium	The State provides multiple per diem categories that are difficult to administer.
	Lack of automated systems.	Medium	No system for 1) requesting travel and 2) for submitting, editing, and tracking travel reimbursements.

Travel Process Decomposition

The process decomposition in Figure 2-7 was created based on information gathered during the due diligence phase of the Enterprise Applications PPEA. The decomposition is a composite of

process entities gathered from the 32 responding agencies. Thus, not all agencies are performing each function.

Figure 2-7: Travel Process Decomposition Chart



Conclusion

The Commonwealth has a decentralized travel environment. Since the amount of travel done at the Commonwealth is minimal, there is not a great need for re-solutioning the process. Some of the pain points identified should be addressed. This area should also be monitored to see if the volume of travel changes significantly to warrant a review and potential reengineering of this process.

2.2 Financial Management

The Commonwealth's Enterprise Business Architecture Model defines the Financial Management function as "the use of financial information to measure, operate, and predict the effectiveness and efficiency of the entity's activities in relation to its objectives. The ability to obtain and use such information is usually characterized by having in place policies, practices, standards and a system of controls that capture and report activity in a consistent manner."

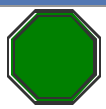
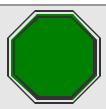
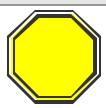
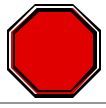
2.2.1 Accounting

Process Characteristic	Description
Process Description	Accounting entails accounting for assets, liabilities, fund balances, revenues, and expenses associated with the maintenance of funds and expenditure of state appropriations (Salaries and Expenses, Operations and Maintenance, Procurement, Working Capital, Trust Funds, etc.), in accordance with applicable state standards. See Figure 2-8: Accounting Process Decomposition Chart, below.
Starting Points	The Accounting process begins when a business event with an internal or external business partner triggers a financially quantifiable entry on the books of the Commonwealth. The Accounting entry is typically driven by some kind of source document, such as a voucher.
Ending Points	The Accounting process ends with recorded transactions that provide input to the downstream Reporting process.
Variations	There are significant variations in the Accounting process across agencies largely driven by the different software applications and manual processes that are in place.
Blockages	Significant blockages occur where different general ledger systems are interfaced, or require manual intervention, such as agency feeds to CARS.
Fragmentations	There is no standardization of the Accounting process across the Commonwealth enterprise. This becomes more critical in a complex, fund accounting environment.
Points of process intersection, integration, and conflict	The Accounting function has both centralized, relatively common processes and agency specific processes. Appropriation control is performed centrally, as is generation of payments. Other accounting functions are primarily agency level—including the methods used for initial transaction generation and processing. From an enterprise architecture perspective, Accounting is supported by CARS as the statewide central system and managed by DOA. Because CARS does not provide the full range agency-required functionality or even all the capabilities that DOA requires, nearly 100 separate systems are operated at the agency level. This process intersects with each of the other five major processes in the Finance tower.
Controls	Appropriation control is performed centrally.
Duplication of effort and data	Nearly 100 separate systems are operated at the agency level. These range from numerous PC/spreadsheet type applications to fully integrated complex integrated systems.
System instances and interfaces	The interfaces between agency and central systems (CARS) are well established and generally work smoothly. The majority of these interfaces is fully automated and has proven relatively easy to maintain.
Process orientation	The accounting process occurs both centrally and distributed at the agency level.
Sourcing arrangements	The accounting functions are performed entirely in-house within each agency. There are a very small percentage (<1%) of contractors engaged in the process.

Accounting Strengths and Weaknesses

During the due diligence process, the agencies were asked to identify the specific strengths (designated by a green indicator) and weaknesses (designated by a red indicator) of the Finance Processes. Table 2-8 is a summary of the feedback received from the agencies, the Commonwealth Partners assessment of the impact of the strength or weakness on the process and the rationale for the designation. Unless specifically highlighted, the Commonwealth Partners concur in the assessment of the Commonwealth staff.

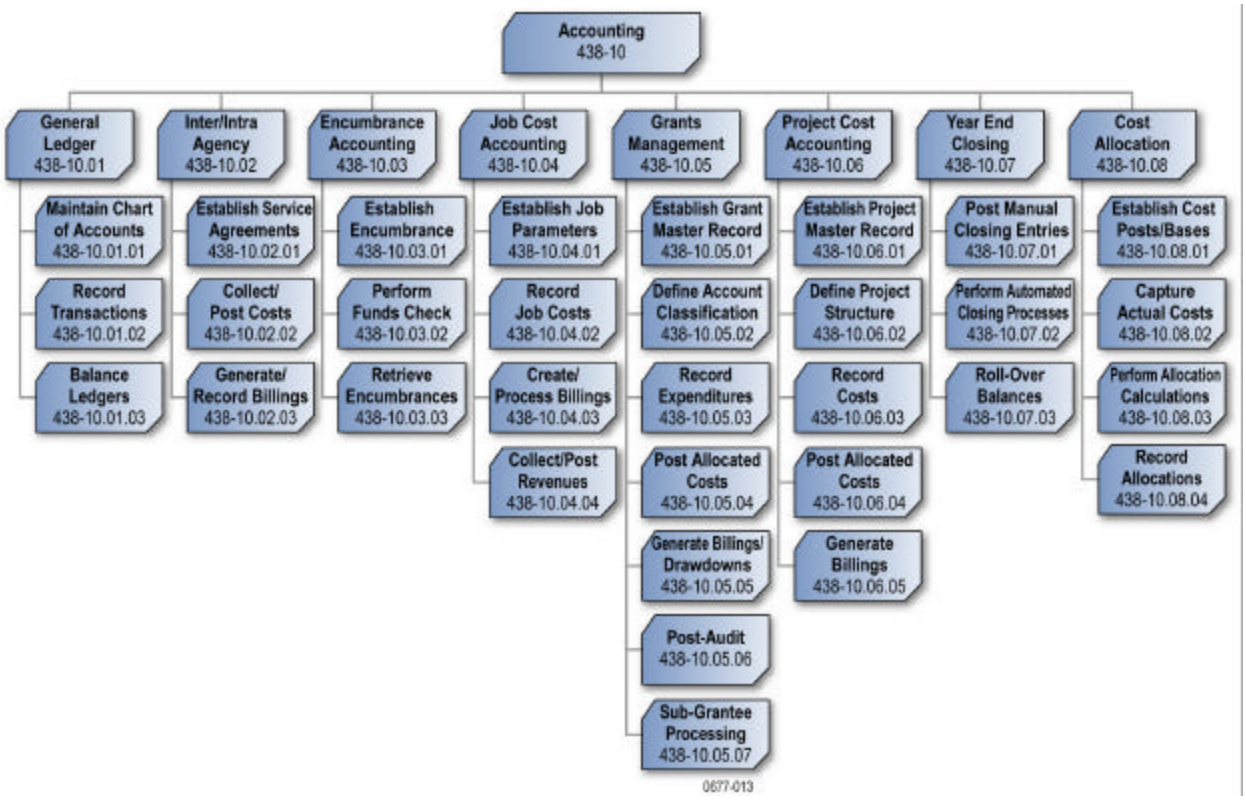
Table 2-8: Accounting Applications in Use

Risk Indicator	Strength or Weakness Description	Impact	Rationale
	Financial systems are tailored to agency needs	High	In today's environment, there is a tradeoff between independence at the agency level and oversight at the enterprise level.
	Some agencies like the Reportline reporting solution	Low	This condition was not widely reported across agencies.
	Decentralization – risk, costs, and inconsistency	High	In today's environment, there is a tradeoff between flexibility at the agency level and cost management at the enterprise level.
	Manual processes for reporting	High	This condition was widely reported across the agencies surveyed, with a high proportion of work effort allocated relative to other Finance processes.
	Old / unsupported technology	High	The potential for system failure presents the risk of business disruption.

Accounting Process Decomposition

The process decomposition in Figure 2-8 was created based on information gathered during the due diligence phase of the Enterprise Applications PPEA. The decomposition is a composite of process entities gathered from the 41 responding agencies. Thus, not all agencies are performing each function.

Figure 2-8: Accounting Process Decomposition Chart



2.2.2 Asset and Liability Management

Process Characteristic	Description
Process Description	Asset and liability management is the process that provides accounting support for the management of assets and liabilities of the Commonwealth. Asset and liability management by the Commonwealth of Virginia is composed of a set of loosely associated financial processes. These processes vary in the degree of centralization, and are integrated only at the highest level—the chart of accounts in CARS. Assets and liabilities represent balance sheet items, as opposed to income statement items, on the financial statements of the Commonwealth. Assets represent property held by the Commonwealth or claims on property, including, for example, cash, inventories, and fixed assets (property, plant, and equipment). Liabilities represent financial claims against the Commonwealth; examples of these include short and long term debt. Asset and liability management composes the following sub-processes: ▪ Petty Cash ▪ CMIA Compliance ▪ Inventory Accounting ▪ Fixed Assets (including Capital Lease accounting) ▪ Other Assets ▪ Other Liabilities See Figure 2-10: Asset and Liability Process Decomposition Chart, below.

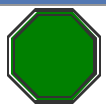
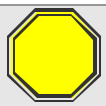
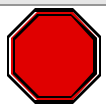
Process Characteristic	Description
Starting Points	The Asset and Liability Management process begins when other financial sub-processes create assets and liabilities – accounts receivable, for example, belongs to the Collections and Accounts Receivable sub-process, and accounts payable belongs to the Payments sub-process. The asset and liability management sub- process serves as a miscellaneous or catchall category that covers assets and liabilities not captured elsewhere in the financial business process decomposition. Asset and liability management includes the accurate and timely valuation and reporting of these balance sheet items.
Ending Points	The Asset and Liability Management process ends with recorded transactions that provide input to the downstream Reporting process.
Variations	There are significant variations in the Asset and Liability Management process across agencies largely driven by the different software applications and manual processes that are in place. The Commonwealth uses numerous systems and applications to support the asset and liability management process.
Blockages	There is little knowledge sharing across agencies regarding business processes, enterprise standards or software applications. This leaves smaller agencies either without functionality or struggling to perform the necessary functions. Additionally, there are multiple systems in place to track fixed assets that are not well integrated and variations in polices across agencies. This leads to inconsistencies in the management of the Commonwealth's Assets and Liabilities.
Fragmentations	The Commonwealth's asset and liability management processes lack enterprise standards and process integration.
Points of process intersection, integration, and conflict	Asset and liability management processes in the Commonwealth vary in the degree of centralization, and are integrated only at the highest level—the chart of accounts in CARS. This process intersects with the Accounting, Collections and Receivables, Payments and Reporting processes in the Finance tower.
Duplication of effort and data	There is no automated update of inventory accounting from eVA into CARS, which results in duplicative data entry. Each agency maintains its own separate bank account. This results in additional reconciliation efforts. .
System instances and interfaces	The Commonwealth uses numerous systems and applications to support the asset and liability management process. Some of these existing systems could be considered Enterprise Applications. CARS is the Commonwealth's financial backbone; many agencies are direct users of CARS, while the others, for the most part those with ERP systems, have interfaces to CARS. The FAACS system supports financial reporting for fixed assets, while LAS (Lease Accounting System) provides functionality for the evaluation and management of capital leases. Those agencies that have the fixed asset and capital lease sub-processes are generally users of FAACS and LAS—although even those agencies that are direct users of CARS, FAACS, and/or LAS do not necessarily have their needs fully met by those systems. In those cases, the agencies have supplemental, freestanding applications to provide the necessary functionality, or, in many cases, the business processes are managed with substantial manual intervention. As might be expected for a diverse group of sub-processes, asset and liability management involves a large variety of systems and applications at the agency level. In effect, these are "point" solutions under agency control, with varying degrees of automation, sophistication, and effectiveness. Other systems and applications supporting the asset and liability management process at the agencies are shown in Figure 2-9: Asset and Liability Management Supporting Systems, below.
Process orientation	The process occurs at the agency level in a distributed manner and exists centrally.
Sourcing arrangements	The asset and liability management functions are performed almost entirely in-house within each agency. The amount of labor effort (full time equivalents or FTEs) devoted to these processes is generally small, no more than 2-3 FTEs for most agencies. Personnel supporting these functions are highly dispersed throughout the Commonwealth's agencies. A large number of FTEs that support these functions across the Commonwealth are contractors (51%). However, this reflects VDOT's extensive use of contractors to perform administration functions, rather than reflecting a broad trend among agencies.

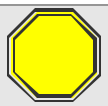
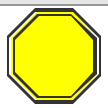
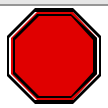
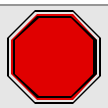
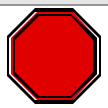
Figure 2-9: Asset and Liability Management Supporting Systems

Accounting Strengths and Weaknesses

During the due diligence process the agencies were asked to identify the specific strengths (designated by a green indicator) and weaknesses (designated by a red indicator) of the Finance Processes. Table 2-9 is a summary of the feedback received from the agencies, the Commonwealth Partners assessment of the impact of the strength or weakness on the process and the rationale for the designation. Unless specifically highlighted, the Commonwealth Partners concur in the assessment of the Commonwealth staff.

Table 2-9: Accounting Strengths and Weaknesses

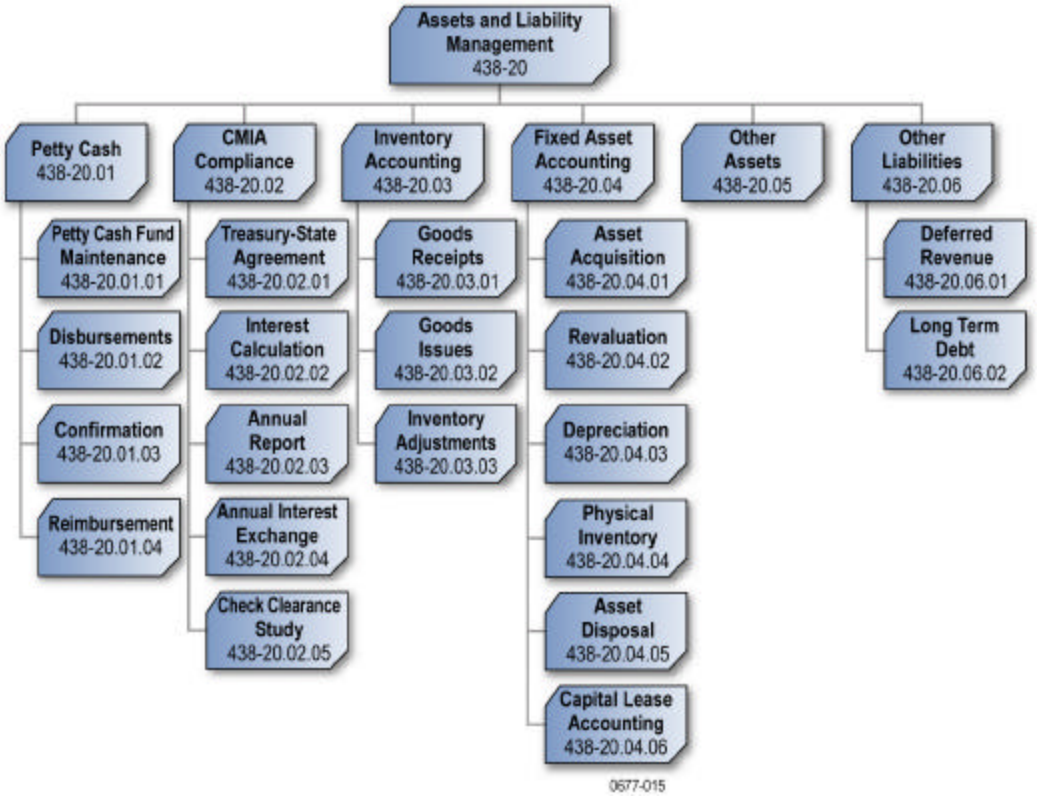
Risk Indicator	Strength or Weakness Description	Impact	Rationale
	Decentralization of asset and liability management processes	High	In today's environment, there is a tradeoff between independence at the agency level and oversight at the enterprise level. Agencies like the decentralization of asset and liability management processes that provide them with the flexibility to tailor policies and practices to their specific missions. Smaller agencies with simple processes avoid the cost and complexity of standardized solutions .
	Fixed Asset System	Low	The new web-based FAACS system is regarded as user friendly by many agencies in the Commonwealth Conversely, a number of shortfalls were identified with the system including: ▪ Lack of support in FAACS for federal reporting for grants ▪ Lack of query capability in FAACS ▪ Lack of integration between FAACS and CARS ▪ Lack of integration between FAACS and LAS (lease accounting)
	Fixed Assets Tracking	High	Various systems are used to track fixed assets. These systems are not well integrated. There are also differences in policy among various agencies. Issues include: ▪ Manual effort in managing capital leases because LAS does not support agency specific ▪ Use of FAACS for purposes other than financial asset management, such as property control and grant reporting ▪ No standard process or system to handle requirements of property control

Risk Indicator	Strength or Weakness Description	Impact	Rationale
			▪ Capitalization policies differ among agencies ▪ Lack of integration with the procurement process causes capital expenditures to be erroneously expensed.
	Petty cash	Low	Agencies liked the ability, within the general guidelines provided in the CAPP manual, to create local policies and procedures for petty cash to manage particular business-specific risks. The downside of using petty cash to make up payroll shortfalls signifies potential upstream defects in the time reporting and/or payroll processes.
	Lack of Automated Accrual Accounting	High	Since CARS supports the cash basis of accounting, accruals for the full and modified basis of accounting have to be prepared manually.
	Inventory accounting	Medium	Inventory management is largely manually performed. There is limited use of bar coding and scanning technologies.
	Varying levels of application support	High	The lack of central applications and support leaves smaller and mid-sized agencies either without functionality or struggling to provide it for themselves.
	Lack of knowledge transfer among agencies	High	There is no provision or incentive for sharing of expertise, leading business practices, or applications across agencies.
	CMIA compliance	High	Batch processing in CARS currently splits the posting of expenditures and revenues, which causes artificial timing differences in reporting. The CMIA compliance process is labor intensive due to limited systems functionality.

Asset and Liability Process Decomposition

The process decomposition in Figure 2-10 was created based on information gathered during the due diligence phase of the Enterprise Applications PPEA. The decomposition is a composite of process entities gathered from the 40 responding agencies. Thus, not all agencies are performing each function.

Figure 2-10: Asset and Liability Process Decomposition Chart



2.2.3 Budget and Finance

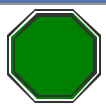
Process Characteristic	Description
Process Description	The Budget and Financial Management process involves the management of the state budget process including the development of budget plans and programs and operations through appropriation and apportionment of direct and reimbursable spending authority, fund transfers, investment and other financing mechanisms. See Figure 2-11: Budget and Finance Process Decomposition Chart, below.
Starting Points	The starting point for the process is when the agencies prepare initial budget plans for the next biennium.
Ending Points	The ending point for the budget process is when the Budget is approved for SFY by the General Assembly.
Variations	There can be mid-year adjustments to the approved state budget for general funds. The execution of the budget is a separate process. Non-general funds follow a different approval path and occur between the agency and the awarding institution.
Blockages	Blockages to the budget process occur when timely information is not available. For example, there is no funds availability or funds checking capability in the Financial system. As a result, the various agencies have to go through elaborate approval processes to manually check the availability of funds. This type of approval process can slow down or block the requisitioning process.
Fragmentations	The budget process is currently very fragmented. The agencies do not have an easy way to review their budget information in a meaningful way because the information resides in multiple systems.

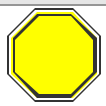
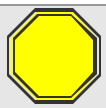
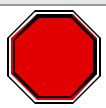
Process Characteristic	Description
Points of process intersection, integration, and conflict	There are a number of intersections associated with the budget and financial management processes. 1) The overall budget process also includes budgeting for positions. There is an intersection between the Finance and HR towers related to position budgeting. 2) Encumbrance accounting includes the ability to encumber funds for all purchases. This is an example of an intersection between Supply Chain and Finance. The points of intersection, which typically become fragmentation points in the process, can be resolved by including the appropriate integration of information and process. Appropriate integration can also resolve conflicts. For example, appropriate encumbrance accounting could prevent a conflict related to over expending on purchases.
Controls	Many of the controls in the budget process are manual since one integrated system does not contain both the budget and the expenses for a given agency.
Points of redundancy	There are a number of points of redundancy in the Budget and Financial Management process. One such area is the need to perform multiple funds availability checks as part of the overall procures to pay enterprise-wide business process. Funds are checked when the procurement is initially approved, as part of the purchase order approval process. Since there is no encumbrance created for that purchase order when the time comes to pay, the funds are checked again to confirm that the funds are still available.
Duplication of effort and data	Some agencies have over time developed their own systems to track their agency specific expenditures. Much of this data resides at the central level as well as the agency level. At the central level the data is dispersed between the Budget systems, the accounting systems and the procurement systems. There is duplication of data both centrally and at the agency level. There is also duplication of effort as each group manually checks availability of funds as part of their day to day budget and accounting activities.
System instances and interfaces	A number of agencies have views into the budget information maintained centrally in both WebBears and FATS. Some agencies have their own agency specific ERP systems where some of this information may also be stored.
Process orientation	The budget process is performed both at the central and agency level.
Sourcing arrangements	The budget process is performed predominately by Commonwealth employees – survey indicates nearly 99%.

Budget and Finance Strengths and Weaknesses

During the due diligence process, the agencies were asked to identify the specific strengths (designated by a green indicator) and weaknesses (designated by a red indicator) of the Finance Processes. Table 2-10 is a summary of the feedback received from the agencies, the Commonwealth Partners assessment of the impact of the strength or weakness on the process and the rationale for the designation. Unless specifically highlighted, the Commonwealth Partners concur in the assessment of the Commonwealth staff.

Table 2-10: Budget and Finance Strengths and Weaknesses

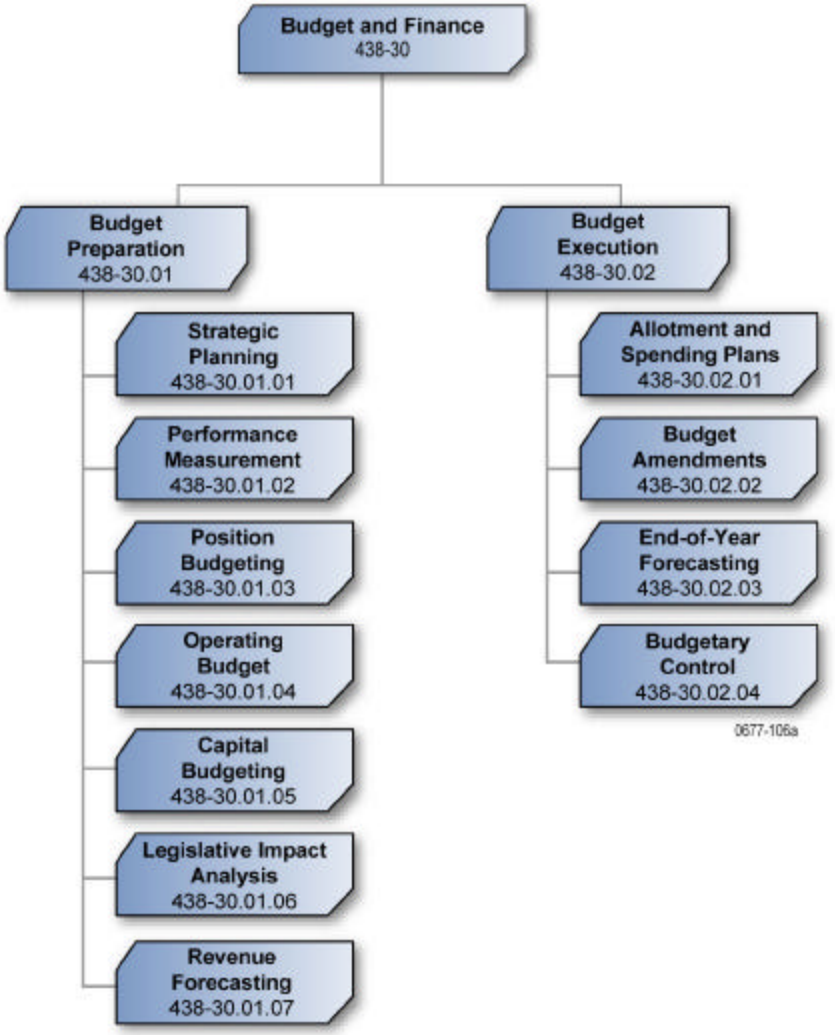
Risk Indicator	Strength or Weakness Description	Impact	Rationale
	WebBears the Budget Entry and Reporting System is web-based, easy to use and efficient for capturing agency budget submissions.	Medium	The Commonwealth agencies are used to using a common tool to enter their budgets.

Risk Indicator	Strength or Weakness Description	Impact	Rationale
	"What-if" analysis and forecasting. The only practical way of conducting "what-if" is through traditional spreadsheet tools.	High	Budgetary systems do not provide the tools to easily assemble data and analyze alternatives
	Accounting and budgetary detail. Central systems do not capture or support data requirements below the service area, program, and function.	High	Agencies have a critical need to develop budgets, spending plans at lower level of detail. DPB also identified the advantage of capturing information at lower levels to support their analysis and planning requirements.
	Allocation of central appropriation adjustments. The allocation process of central account buckets used for state-wide wage adjustments, fringe benefit changes and other programs is completed through local tools such as Microsoft Access and Excel at DPB.	High	Once the central accounts have been spread to the agencies, agency staffs need to allocate these additional resources to the appropriate cost centers. Agencies have no automated way to complete this final allocation step. This is currently a manual process.
	Position budgeting. The Commonwealth uses a series of disparate approaches and systems for projecting personnel costs	High	Costs related to employees make up the majority of costs at the Commonwealth. Every agency applies their own methodology and tools to calculating labor costs. Vacant and new positions are calculated with different assumptions throughout the Commonwealth.

Budget and Finance Decomposition

The process decomposition in Figure 2-11 was created based on information gathered during the due diligence phase of the Enterprise Applications PPEA. The decomposition is a composite of process entities gathered from the 39 responding agencies. Thus, not all agencies are performing each function.

Figure 2-11: Budget and Finance Process Decomposition Chart



2.2.4 Collection and Receivables

Process Characteristic	Description
Process Description	Revenue Collection includes the collection of government non-tax income from all sources. The Debt Collection Process includes the activities associated with the collection of money owed to the state government from both foreign and domestic sources. These include the collection of user fees charged for the provision of government services or for the use of government goods or resources (e.g., State Parks), as well as other fines, fees and Commonwealth overpayments. This process also encompasses functions for managing deposits, fund transfers, and receipts for sales or services. Collections and Receivables span the establishment, billing, and follow-up of a debt owed to the Commonwealth. Debts are collected, monies are posted to the delinquent account, and reporting to the Department of Accounts occurs. Steps within the collection process may include skip tracing, referral for offset with TAX and/or the Comptroller, referral to the Office of the Attorney General, and referral to a private collection agency. See Figure 2-12: Collections and Receivables Process Decomposition Chart, below.
Starting Points	Collections and Receivables are initiated with the establishment, billing, and follow-up of a debt owed to the Commonwealth.

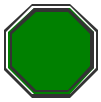
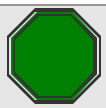
Process Characteristic	Description
Ending Points	Debts are collected, monies are posted to the delinquent account, and reporting to the Department of Accounts occurs.
Variations	Commonwealth agencies appear to do a good job of sharing information throughout the collections process. However, there are differences in policies and procedures that create inefficiencies in accounts receivable management. Staffing level variations and shortages across agencies also contribute to decreased efficiencies.
Blockages	There is little knowledge sharing across agencies regarding business processes, enterprise standards or software applications. This leaves smaller agencies either without functionality or struggling to perform the necessary functions. Additionally, there are multiple systems in place to track fixed assets that are not well integrated and variations in polices across agencies. This leads to inconsistencies in the management of the Commonwealth's Assets and Liabilities.
Fragmentations	There is a lack of a consistent mandated process for delinquent collections, which leads to lower collections across the Commonwealth.
Points of process intersection, integration, and conflict	This process intersects with the Accounting, Assets and Liabilities, and Reporting processes in the Finance tower.
Duplication of effort and data	There is a lack of a standardized delinquency tracking process resulting in potentially duplicative efforts across agencies.
System instances and interfaces	Agencies have invested in a variety of applications to track and manage receivables. These applications range from sophisticated agency-level systems to locally maintained spreadsheets and small databases. Here is a partial list of applications used throughout the Commonwealth: ▪ FMS II ▪ IRMS ▪ AVATAR ▪ AFS ▪ Peachtree Many of the receivable management systems within the Commonwealth are obsolete or do not interface efficiently with one another. In some cases, agencies are relying upon old unsupported application and database releases. Accessing data for reporting and analysis is very difficult for many agencies.
Sourcing arrangements	Each agency expressed concerns about staffing levels and the performance of collection activity. In particular the need for more staff to perform audits and collections. The majority of the agencies considered to have an active collections process have anywhere from 12 to 50 FTEs to perform all activities associated with collections. DSS has over 390 field officers dispersed statewide to conduct collection activity but has a collections caseload in excess of 363,000 cases. Agencies also reported an inadequate number of FTEs dedicated to the billing and collection process. DSS, at first glance, has a rather large number of FTEs, however, these are employees dispersed throughout the Commonwealth attempting to locate and collect from delinquent parents who owe child support. Steps within the collection process sometimes include referral to the Office of the Attorney General (OAG), or special counsel appointed by the OAG, as well as limited use of private collection agencies.

Collections and Receivables Strengths and Weaknesses

During the due diligence process, the agencies were asked to identify the specific strengths (designated by a green indicator) and weaknesses (designated by a red indicator) of the Finance Processes. Table 2-11 is a summary of the feedback received from the agencies, the Commonwealth Partners assessment of the impact of the strength or weakness on the process and

the rationale for the designation. Unless specifically highlighted, the Commonwealth Partners concur in the assessment of the Commonwealth staff.

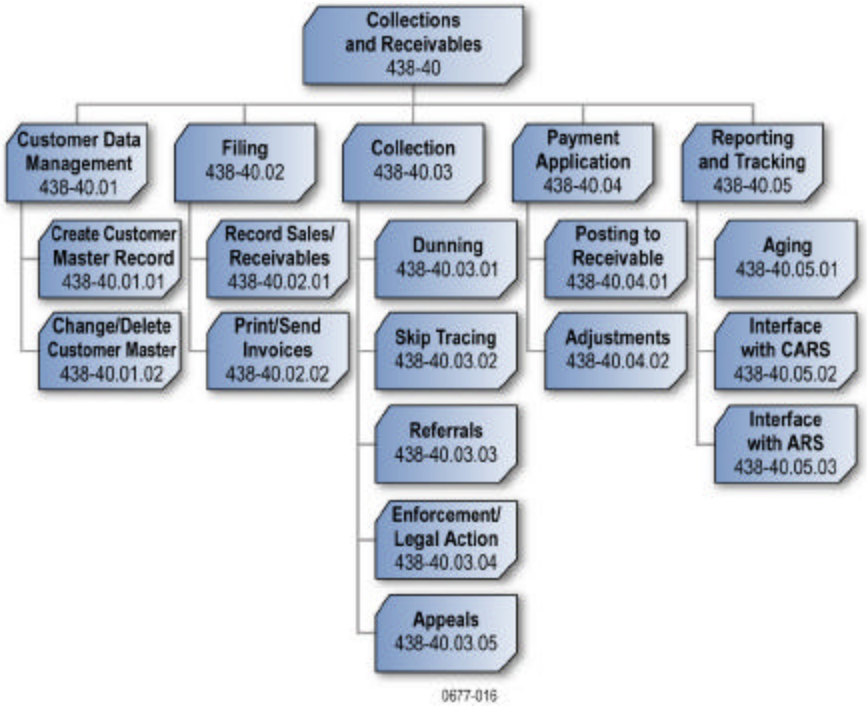
Table 2-11: Collections and Receivables Strengths and Weaknesses

Risk Indicator	Strength or Weakness Description	Impact	Rationale
	Decentralization of Debt establishment process	Medium	Debt establishment is a decentralized process, consisting of many Commonwealth locations for many agencies. These multiple locations allows for multiple points of service for the citizenry.
	Centralized billing and collection process	High	The billing and collection process is a central process with the exception of the Department of Social Services. Overall, the centralization of the billing process allows for higher efficiencies in accounts receivable tracking.
	Lack of knowledge sharing across agencies	High	There is no identification and sharing of best practices, techniques, and tools, so the success of collections varies widely across agencies.
	Lack of a consistent mandate process	High	The lack of a consistent mandated process leads to lower collections. The Commonwealth has a “suggested” delinquent collection process as outlined in the CAPP Manual authored by the Office of the Attorney General and the Department of Accounts, but no mandates. This leads to agencies utilizing varying sources for collection and skip-tracing.

Collections and Receivables Process Decomposition

The process decomposition in Figure 2-12 was created based on information gathered during the due diligence phase of the Enterprise Applications PPEA. The decomposition is a composite of process entities gathered from the 38 responding agencies. Thus, not all agencies are performing each function.

Figure 2-12: Collections and Receivables Process Decomposition Chart



2.2.5 Payments

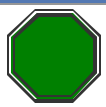
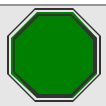
Process Characteristic	Description
Process Description	The payment activity includes disbursements of state funds via a variety of mechanisms to private individuals, state agencies, local governments, and the private sector to pay for goods and services, or to distribute entitlements, benefits, grants, subsidies, loans, or claims. This analysis of the Commonwealth's payment function focuses on the payment for goods and services. These payments are governed by the Prompt Payment Act, which, among other provisions, requires that payments be disbursed within 30 days of receiving a clean invoice. The payment process for goods and services generally proceeds as follows: vendors submit invoice to agency; agency personnel match invoice with receiving report and purchase order; discrepancies are addressed; agency pre-audits payment request and forwards to Department of Accounts; DOA ensures that batches are in order and processes requests that result in an electronic payment being sent to the vendor or a paper check being cut and mailed to vendor. See Figure 2-13: Payments Process Decomposition Chart, below.
Starting Points	The starting point for the payment process starts in the Supply Chain Management tower, within the procurement process. The procurement process initiates, which then after receipt of the goods or service, results in the payment process starting.
Ending Points	The ending point is the payment of the invoice to the vendor. This is dependent on the procurement goods and services being received and the creation of the approval for payment.
Variations	A critical element of the payment process is the ability to verify that the goods or services for which the payment is being processed have been received. Many of the agencies do not have a standardized way of performing the receiving function and as a result there are a number of variations for receiving the goods and services and the associated payments for the goods and services.

Process Characteristic	Description
Fragmentations	A point discussed earlier in the variation section is also an example of a fragmentation. The receiving process is done outside of the payment system, at many agencies this is done manually. The payments are then processed (both manually or interfaced) into CARS for payment. This is an example of a fragmented process.
Points of process intersection, integration, and conflict	The payment process is executed within CARS. The process steps leading up to payment are executed in a number of other systems such as eVA, agency specific systems and manually within spreadsheets. The information from all of these systems needs to intersect or integrate in order to complete the payment process. Time delays and duplicative data entry (both into CARS and local systems) can result in reconciliation issues and conflict within the process.
Controls	There are a number of points of control for the payment process. For example approved vouchers must be entered into CARS to process payments. The approval process and the controls around this process are not standard across all of the agencies. The points of control for this process are both decentralized and centralized.
Points of redundancy	Vendors may receive multiple checks at the same time from the Commonwealth for multiple procurements. There is a cost associated with cutting individual checks, this cost could be minimized if system functionality allowed the summarization of invoices (with detail included) and cut one check to the vendor for a given period of time.
Duplication of effort and data	There is a duplication of effort and data in the payment process. Of the 41 respondents to the Payment surveys, 23 indicated that they operate their own financial system. This results in duplication of data both at the agency level and at the central level. Due to the duplication of the payment systems – the payment process is also duplicated. Reconciliation needs to occur between the systems.
System instances and interfaces	The 23 agencies with their own payment systems have to interface their information either manually or electronically to the central payment system – CARS.
Process orientation	The payment process is completed both centrally and locally at the agency level.
Sourcing arrangements	The payment process is completed entirely (99 % per survey results) by Commonwealth employees.

Payments Strengths and Weaknesses

During the due diligence process, the agencies were asked to identify the specific strengths (designated by a green indicator) and weaknesses (designated by a red indicator) of the Finance Processes. Table 2-12 is a summary of the feedback received from the agencies, the Commonwealth Partners assessment of the impact of the strength or weakness on the process and the rationale for the designation. Unless specifically highlighted, the Commonwealth Partners concur in the assessment of the Commonwealth staff.

Table 2-12: Payments Strengths and Weaknesses

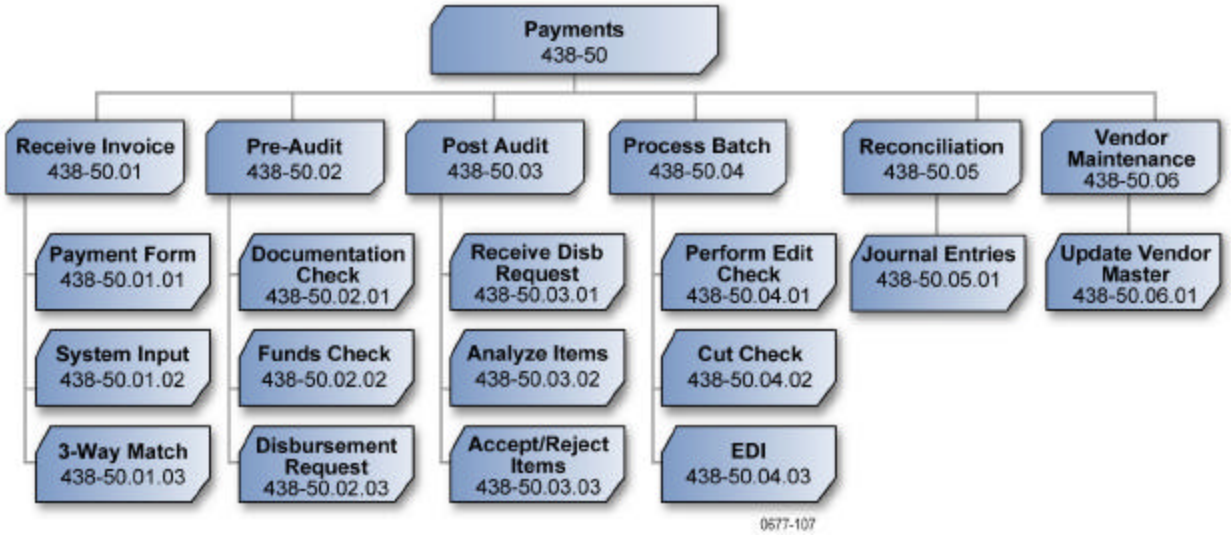
Risk Indicator	Strength or Weakness Description	Impact	Rationale
	95% compliant with Prompt Payment Act	High	Once the paperwork is received in the Accounts Payable department, the invoices are paid very rapidly.
	Automated interfaces between CARS and agency financial systems	High	For those agencies with automated systems, there is an automated interface to CARS.

Risk Indicator	Strength or Weakness Description	Impact	Rationale
	Vendors receive separate checks by agency	Medium	Since the procurement is initiated in eVA and the receiving is performed in a number of systems, the approvals arrive in the AP department from a variety of sources. It is possible that one vendor could receive multiple checks for multiple invoices during the same period. Currently there is no capability to consolidate a payment to a vendor and cut one check.
	Numerous reconciliation efforts	High	As indicated in the above scenario, multiple systems are used at various parts of the enterprise buy to pay process. As a result numerous reconciliation activities need to take place to verify that the goods and or services are OK to pay.
	Multiple systems used to process payments	High	Although all the AP checks are cut from one system, there are multiple systems and interfaces associated with either the procurement or receiving portions of this process resulting in payments. As indicated above, multiple systems equates to more reconciliation's.
	Process can be delayed by manual process steps	Medium	Manual invoice approvals and receiving steps can delay the payment process.

Payments Decomposition Chart

The process decomposition in Figure 2-13 was created based on information gathered during the due diligence phase of the Enterprise Applications PPEA. The decomposition is a composite of process entities gathered from the 41 responding agencies. Thus, not all agencies are performing each function.

Figure 2-13: Payments Process Decomposition Chart



2.2.6 Reporting and Information

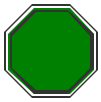
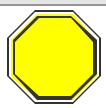
Process Characteristic	Description
Process Description	Reporting and Information process includes providing financial information, reporting and analysis of financial transactions. The reporting and information function occurs both at the central and agency level. The diverse nature of the agencies has resulted in a number of agency specific financial and reporting systems. The Commonwealth-wide reporting requirements associated with the production of the CAFR require significant time and effort from the agencies. At the central level, a number of reporting tools exist for the agencies to use. See Figure 2-14: Reporting and Information Process Decomposition Chart, below.
Starting Points	The starting point for the reporting and information process resides in all of the towers and sub-processes. For example, information and reports are required on levels of procurement, number of vendors and payments, year to date budgets etc. All financial transactions could become an input into the reporting and information process.
Ending Points	The end point for this process is the creating and dissemination of a variety of reports (standard reports within systems, custom reports, data sets), which improves the current or future business process. An example of an end point could be a budget to actual expenditure report – this report could help the agency to decide how to spend its remaining budget.
Variations	Since there is no Commonwealth-wide integrated system, there are variations at the agency level on the quantity and quality of the information available via reports. The agencies have agency specific ways of obtaining reports and information.
Blockages	Not having current, standard reports and data becomes a blockage to the agency to efficiently complete their processes. Every time an agency has to revert to a manual process to identify information that could be provided in a standardized report – results in a blockage to a process. On-line funds availability report would be a good example of the removal of a blockage to the procurement process.
Fragmentations	A number of agencies have their own reporting systems. These systems were developed so the agency could get consolidated information easily. The central systems are not able to provide this view and have resulted in a fragmented reporting and information process.
Points of process intersection, integration, and conflict	The reporting and information process is one of the processes with many intersections and integration points. Most of the transactions and the data around these transactions discussed in the PPEA should be available via a report. Pulling this information together, manually in many cases causes conflict for the agencies and departments.
Controls	One of the challenges in the reporting and information process is establishing adequate controls for the information, which often comes from a variety of sources and varying levels of detail. This process is then further complicated by the non-standardized nature of the data from these systems. There is a greater need for control of this process since there is no Commonwealth-wide dataset to pull from.
Points of redundancy	The reporting and information process is an area where there are many points of redundancy. With many agency specific systems, each with its own data set, putting together a Commonwealth-wide view requires bringing this data into a standardized format. This data is now redundant since it exists in multiple forms at the Commonwealth.
Duplication of effort and data	As listed above, there is duplication of effort involved with the re-entry or integration of reporting data from the variety of systems where this data resides.
Process orientation	The reporting and information process is oriented both centrally and at the agency level.
Sourcing arrangements	As reported by the surveys the reporting and information process is performed almost exclusively (99%) by Commonwealth employees.

Reporting and Information Strengths and Weaknesses

During the due diligence process, the agencies were asked to identify the specific strengths (designated by a green indicator) and weaknesses (designated by a red indicator) of the Finance

Processes. Table 2-13 is a summary of the feedback received from the agencies, the Commonwealth Partners assessment of the impact of the strength or weakness on the process and the rationale for the designation. Unless specifically highlighted, the Commonwealth Partners concur in the assessment of the Commonwealth staff.

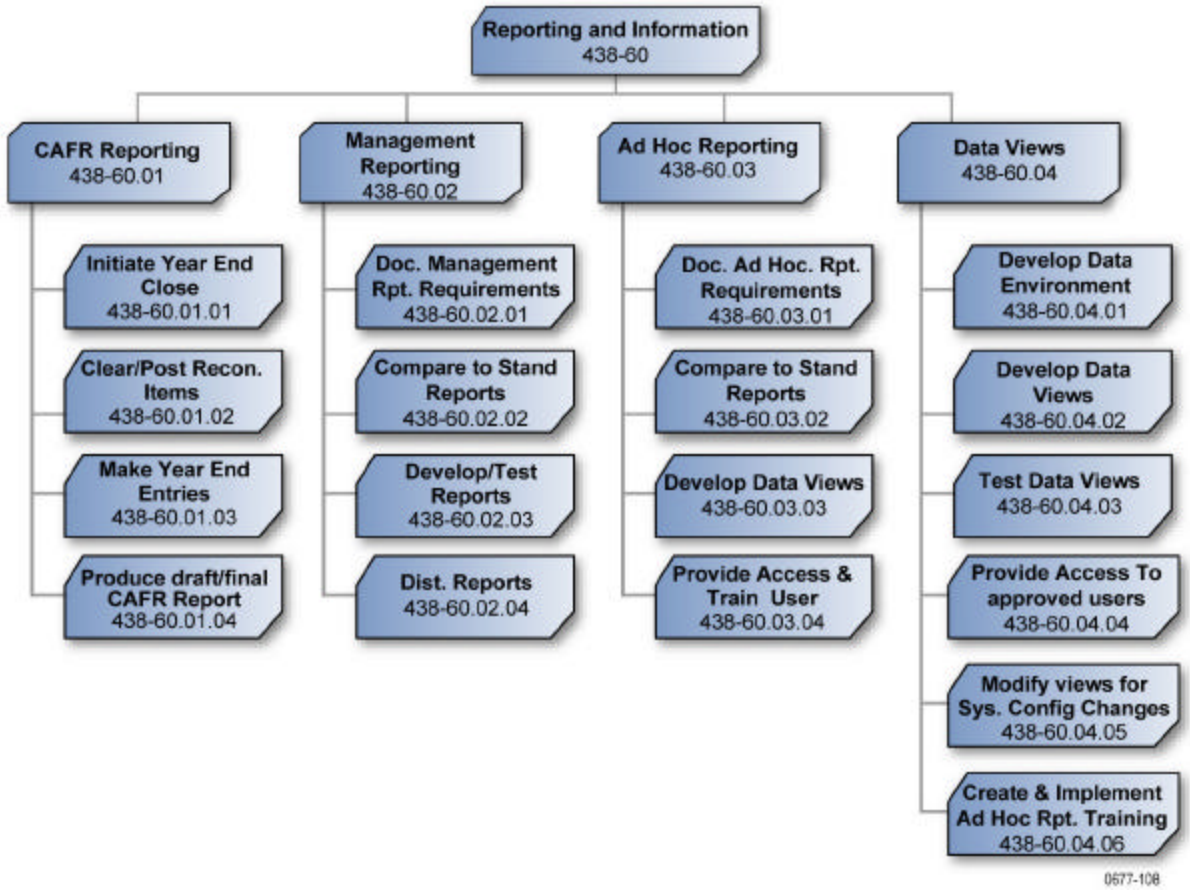
Table 2-13: Reporting and Information Strengths and Weaknesses

Risk Indicator	Strength or Weakness Description	Impact	Rationale
	Meeting reporting requirements	High	Commonwealth receives the GFOA certificate each year. The data is secure in the environment. There appears to be adequate internal controls.
	Use of automation in the reporting process	Medium	Reporting capabilities within Reportline are used by some agencies. Relevant data is consistently presented and it minimizes the agencies need to "store" the reports data. Automated interfaces to CARS. Some agencies have an automated interface to CARS, making their reporting process more efficient than those agencies that need to manually enter their transactions into CARS.
	Mission-specific reporting and information systems	Medium	Agencies have evolved a variety of manual and automated processes for creating their reports. Some agencies have developed their own reporting systems to support their specific missions. Solutions range from agency-wide systems to locally maintained spreadsheets and databases. The incorporation of the mission specific processes and related data elements into CARS can be time consuming.
	CAFR reporting complex and time-consuming	High	The attachments to the CAFR take a lot of time to prepare and are often too rigid to be easily adapted to unique agency specific data structures. Preparing accrual work papers using cash basis CARS reports is time consuming. The Commonwealth CAFR development process needs to incorporate encumbrance accounting and reporting.

Reporting and Information Process Decomposition

The process decomposition in Figure 2-14 was created based on information gathered during the due diligence phase of the Enterprise Applications PPEA. The decomposition is a composite of process entities gathered from the 42 responding agencies. Thus, not all agencies are performing each function.

Figure 2-14: Reporting and Information Process Decomposition Chart



Conclusion

As indicated in the individual sections for the Finance area, when viewed at a summary level certain themes begin to emerge across the sub-processes within Finance. For example a number of processes have similar weaknesses, duplicate data entry, difficulty with reconciliation, entering information and integrating into multiple systems are mentioned in a variety of processes.

As stated in the Council on Virginia's Interim report January 2005:

> *"The Future State –WOW: As the Council carried out its work, it became clear that significant changes in state government processes would be necessary to implement the Roadmap, become the best-managed state and deliver ever-improving results.*

This vision taken into consideration with the weaknesses identified above makes a strong case for process improvements.

Ever-improving results are based on an environment, which supports continuous improvement. In order to improve a business process, a common standard set of metrics or data need to be available. An enterprise level system where the vanilla functionality is embraced is a first step in putting standard processes and data in place. Once standard processes and data are in place, they will serve as a backbone for metrics and continuous improvement. Section 3 details the various solutions that will be put into place to move the Commonwealth along this roadmap.

2.3 Human Resource Management

Two separate central systems serve as the backbone for the HR Management processes in the Commonwealth. The Personnel Management Information System (PMIS), the primary human resources management system, is an online transaction based system maintained by DHRM. This system is the repository for employee records for all active and separated Classified Executive Branch employees, higher education faculty, employees of certain agencies exempt from the Virginia Personnel Act and benefits records for local government employees who participate in the State Health Benefits Program. PMIS functionality is augmented by a client/server Data Warehouse that provides standard and ad hoc reporting capabilities and a web-based front-end system "EmployeeDirect" that allows employee self-service activity for benefits changes.

The Commonwealth Integrated Personnel and Payroll System (CIPPS) is the central payroll system. It is maintained by the Department of Accounts (DOA). CIPPS functionality has been enhanced through the implementation of a Payroll Audit Tool to support agency payroll reconciliation, CIPPS Leave to support agency tracking of employee leave balances and Payline to provide self service functionality to managers and employees. DOA is responsible for the production of the payroll and the agencies are responsible for the processing of all payroll transactions and reconciling and certifying the payroll prior to release. To support the smaller agencies, DOA has established a Payroll Service Bureau (PSB) that provides full payroll services to approximately 36 agencies.

DHRM serves as the central HR Department for the Commonwealth providing HR program and policy development services. HR Management processes and transaction processing are generally the responsibility of the agencies. To support the smaller agencies that cannot justify full time HR management and processing staff, DHRM has established a service bureau that provides the full range of HR services to ten other agencies.

For the due diligence process, specific HR processes were selected for review and study. These processes are:

- Time and Labor Distribution
- Position Classification and Position Management
- Personnel Action Processing
- Payroll
- Evaluation
- Applicant Intake and Recruiting

The current Human Resource Management environment /architecture is marked by the flexibility that is afforded to the agencies.

However even with a common base process, there is significant latitude afforded to the agencies. For example:

- There is a common performance evaluation system designed and maintained by DHRM. It has a three-point rating scale and an evaluation form and process that the agencies can use. Individual agencies are free to design their own system, rating scales, forms and processes to meet specific agency requirements. The only Commonwealth restriction on agency specific systems is that the agency rating scale must map to the Commonwealth three-point scale for entry into PMIS.
- The Commonwealth requires that all open positions be posted in the RECRUIT system (exceptions are made for "Agency only" positions that must be filled from within a particular agency). Open positions must be posted for a minimum of 5 days. Other than these requirements, agencies are free to establish their own recruitment processes including agency-specific job applications, posting requirements and screening processes.

There are also significant groups of employees who are excluded from the common processes:

- The processes for Personnel Action Processing are well documented and administered by DHRM for Classified employees. For Wage employee (those who work less than 1500 hours per year) there are no common processes and each agency has developed its own including information technology support that ranges from spreadsheet to Microsoft Access databases to home grown systems to state of the art applications from PeopleSoft and Oracle.

Finally, there are processes that have no Commonwealth-wide support:

- The Time and Labor Distribution process is completely decentralized in the Commonwealth. Agencies have implemented processes that best meet their individual needs and acquired the technology necessary to support their processes. This support ranges form paper time cards to off the shelf systems from Kronos, PeopleSoft, and Oracle.

The following sections describe the processes analyzed in the due diligence study in detail.

2.3.1 Time and Labor

The Time and Labor processes involve the capture and distribution of work hours. It includes the determination and maintenance of timekeeping rules, the physical recording of hours worked and leave time, the calculation of hours to be paid and the distribution of the hours worked and paid to payroll and other systems.

Process Characteristic	Description
Process Description	The general process flow for Time and Labor Reporting starts with the development of Timekeeping Rules that describe the calculation of hours worked and hours paid (Overtime, On-Call Time, Lost Time, etc). Time is collected using a variety of methods (timesheets, time clocks, automated systems) and the calculation of time worked and time paid is made using the Timekeeping Rules. The hours to be paid are transmitted to Payroll for calculation of gross and net pay and, for those agencies that require it, labor distribution calculations are made and the hours worked are transmitted to the appropriate financial systems and processes. See Figure 2-15: Time and Labor Reporting Process Decomposition Chart, below.
Starting Points	The Time and Labor processes begin with the definition of the Timekeeping rules. Theses rules specifically define the factors needed to calculate the amount to be paid and the accounts to which the hours are to be distributed.

Process Characteristic	Description
Ending Points	The Time and Labor processes end with the passing of the hours to be paid to Payroll and the hours worked and cost to the appropriate financial systems.
Variations	Time and Labor processes vary widely among the agencies from simple paper forms to complex information systems using automated time capture devices. In general, the larger the agency, in terms of employees, the more complex and sophisticated the Time and Labor processes. Other variations in Time and Labor are imposed by the need to account for hours worked under various grants.
Blockages	A common issue for all agencies related to the determination of hours to be paid is the integration with the Commonwealth's Disability Pay plan (VSDP). The plan requires the integration of benefits paid under the plan with employee sick pay. There is a lag between the first day of absence for a disability and the determination of the disability benefit. Annual processing must be done for all VSDP integrations.
Fragmentations	Within each agency there is no fragmentation of the processes. All end to end agency time and labor processes take place within the agency from the determination of the timekeeping rules through to the labor distribution to appropriate accounts.
Points of process intersection, integration, and conflict	▪ Time and Labor/CIPPS Integration/Intersection – Hours to be paid are passed from the various time capture systems to Payroll for calculation of gross and net pay. This can be an automated interface or manual data entry. ▪ Time and Labor/PMIS Integration/Intersection – Indicative data (Employee Name, Department, Identification Number) is passed from PMIS to the agency Time Capture process. This can be an automated interface or manual data entry. ▪ Time and Labor/Agency HR System Integration/Intersection – Indicative data (Employee Name, Department, Identification Number) is passed from an Agency HR System to the Agency Time Capture process. This can be an automated interface or manual data entry. ▪ Time and Labor/Grant/Project Accounting Integration/Intersection – Hours worked and cost are passed to the Agency Grant/Project Accounting process. This can be an automated interface or manual data entry.
Controls	▪ FLSA and Commonwealth Labor Laws – statute that defines rules for calculation of overtime pay ▪ HR Policy – Establishes hours of work, state overtime practices, vacation policies, policies for the integration of disability and workers compensation benefits with pay ▪ Grant Requirements and Funding – statutory or regulatory requirements for reporting on the expenditure of Federal and State grants.
Points of redundancy	Employee indicative data (name, department, salary data) is maintained in CIPPS, PMIS, agency local HR databases and agency time and labor systems.
Duplication of effort and data	For agencies that have stand-alone time and labor systems, there is the need to maintain duplicate indicative data within PMIS, CIPPS and for agencies that have established them, the agency HR system (employee name, employee number, department number, hourly rate). For some of the agency systems, the time and labor and personnel action processing processes have been implemented using an integrated application that reduces the need for duplicate data and effort.
System instances and interfaces	There are multiple systems and interfaces within the Commonwealth Time and Labor processes. See Table 2-14: Commonwealth of Virginia Time and Labor Reporting Systems, below.
Process orientation	Time and Labor processes are generally decentralized. Specific timekeeping rules are required Commonwealth-wide (FLSA compliance, VSDP integration, Vacation policy) but the specific processes for collecting and distributing time and labor data are left to the individual agencies.
Sourcing arrangements	There are no alternate sourcing arrangements in the Time and Labor Reporting process

Time and Labor Reporting Process Decomposition

The process decomposition Figure 2-15 was created based on information gathered during the due diligence Phase of the Enterprise Applications PPEA. The decomposition is a composite of process entities gathered from the 36 responding agencies. Thus, not all agencies are performing each function.

Figure 2-15: Time and Labor Reporting Process Decomposition Chart

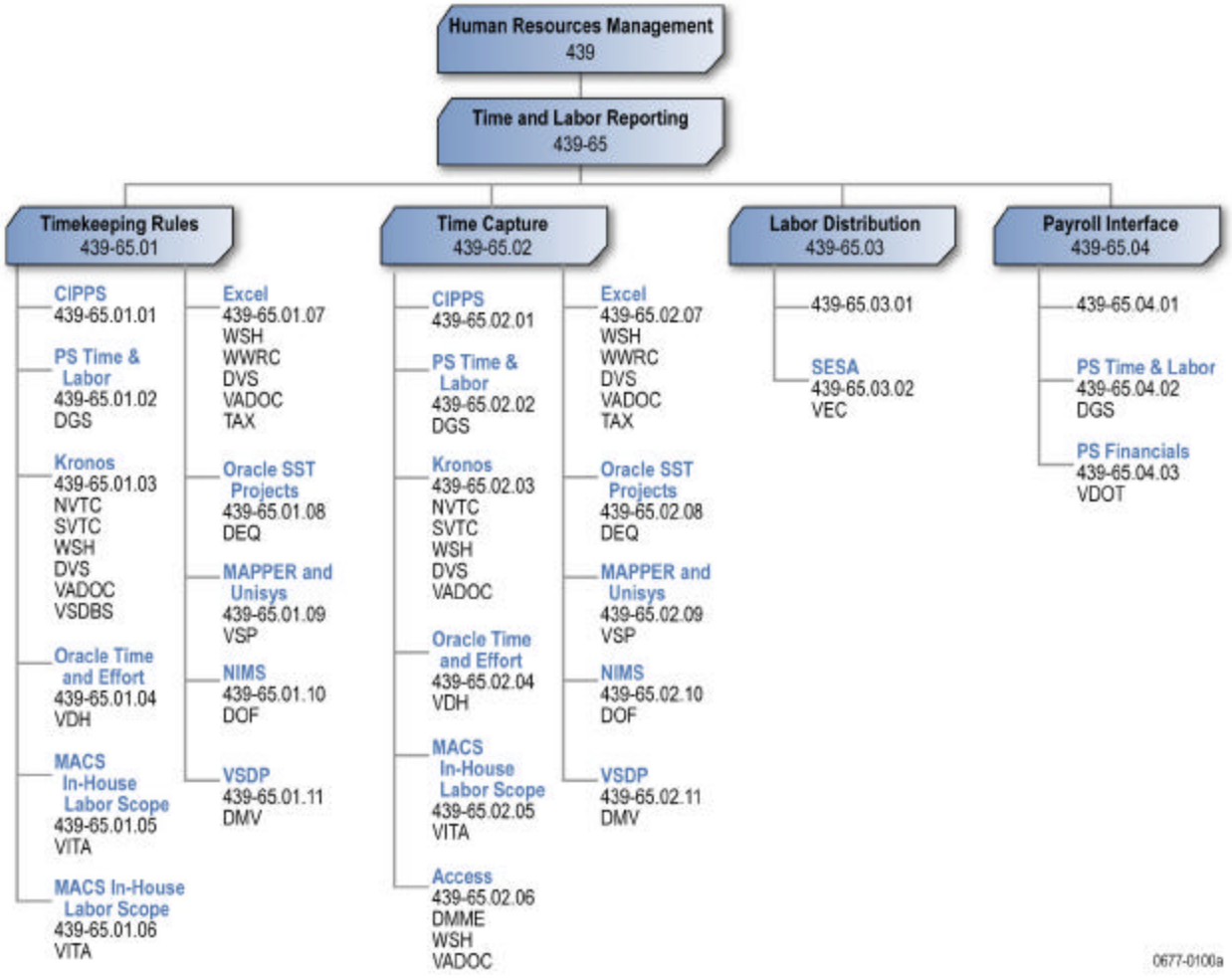


Table 2-14: Commonwealth of Virginia Time and Labor Reporting Systems

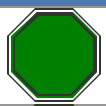
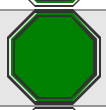
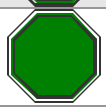
Agency	System Name	Year Initiated	Type	Technology
SSVTC	KRONOS		Commercial package – Agency only	SQL Server 2000
DGS	PeopleSoft 8.1 (Applicant Intake and Tracking)	1/2005	Commercial package – Agency only	Peopletools 8.2, Oracle, Crystal 8.5, Weblogic 5.0, Net Express 2.0
DMV	HR Interface - Application allows for flexible reporting on bi-weekly PMIS downloads in addition to other functions as follows: Standard classified/P-	CY 2000	Custom-built – Agency only	asp, Windows 2000 Server/Oracle

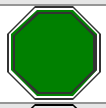
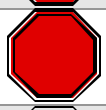
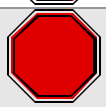
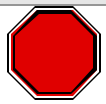
Agency	System Name	Year Initiated	Type	Technology
	14 reporting; Applicant tracking; Alternate work schedule reporting; EWP ratings; Performance Plan tracking			
ABC	Time Keeping	2004	Custom-built – Agency only	Java
DGS	PeopleSoft 8.2 -(Time and Labor)	1/2002	Commercial package – Agency only	Peopletools 8.2, Oracle, Crystal 8.5, Weblogic 5.0, Net Express 2.0
VEC	Time & Leave Recordkeeping - captures timesheet data used by the SESA grants management accounting system.	2005	Custom-built – Agency only	C#
VSP	LAUD - Leave Audit	2004	Custom-built – Agency only	Mapper
VSP	OTP - Overtime Payroll	1980s	Custom-built – Agency only	Mapper
VSP	WARS - Weekly Activity Reporting System	1980s	Custom-built – Agency only	Mapper
WSH	Sup Leave Dbase	1999	Custom-built – Agency only	Access
WSH	TMKP--OTST	1999	Custom-built – Agency only	Access
NVTC.DM HMRSAS.	Kronos Timekeeping	09/1999	Commercial package – Agency only	

Time and Labor Reporting Strengths and Weaknesses

During the due diligence process, the agencies were asked to identify the specific strengths (designated by a green indicator) and weaknesses (designated by a red indicator) of the HR Processes. Table 2-15 is a summary of the feedback received from the agencies, the Commonwealth Partners assessment of the impact of the strength or weakness on the process and the rationale for the designation. Unless specifically highlighted, the Commonwealth Partners concur in the assessment of the Commonwealth staff.

Table 2-15: Time and Labor Reporting Strengths and Weaknesses

Risk Indicator	Strength or Weakness Description	Impact	Rationale
	Support for Grants/Projects	High	Specific agency systems have been developed or purchased to support the need to distribute work time to grants and projects.
	Flexibility	Low	Agencies are able to develop a process that fits their specific needs and requirements.
	Payroll Service Bureau	Medium	Provides consistent Time and Labor support to smaller agencies.

Risk Indicator	Strength or Weakness Description	Impact	Rationale
	Accuracy	High	Where agencies have implemented automated timekeeping systems, they support the accurate calculation of overtime, shift differentials, on-call and other paid and unpaid time.
	Consistency	Low	Commonwealth-wide policies for Vacation policy and VSDP integration provide commonality.
	Manual systems are still in use in some agencies	High	Systems are error prone, time consuming, and labor intensive.
	Duplicate keying of data	High	For some agencies data must be keyed into both the payroll system and a labor distribution system for grant/project accounting.
	Lack of integration with CIPPS and PMIS	High	No central repository for Indicative data (name, department ID umber); it must be maintained in multiple systems. Wage employee data is kept locally in a separate database or file.
	Lack of mechanism to track 1500 hour limit	High	Agencies must manually track the cumulative hours of Wage employees to prevent them from exceeding the statutory 1500 hour limit that would require they be transferred to a Classified position. None of the systems identified has this functionality; therefore agencies maintain separate records and totals.

2.3.2 Position Classification

There is a Commonwealth-wide position classification system that uses the "broad banding" concept. Approximately 300 job roles have been established and agencies conduct their own position classification processes to slot their jobs into the roles. DHRM is the central control point for the process, but the classification tasks are decentralized to the agencies. Position Management is also a Commonwealth-wide process. Before a position can be filled, it must first be approved by agency management and established in PMIS.

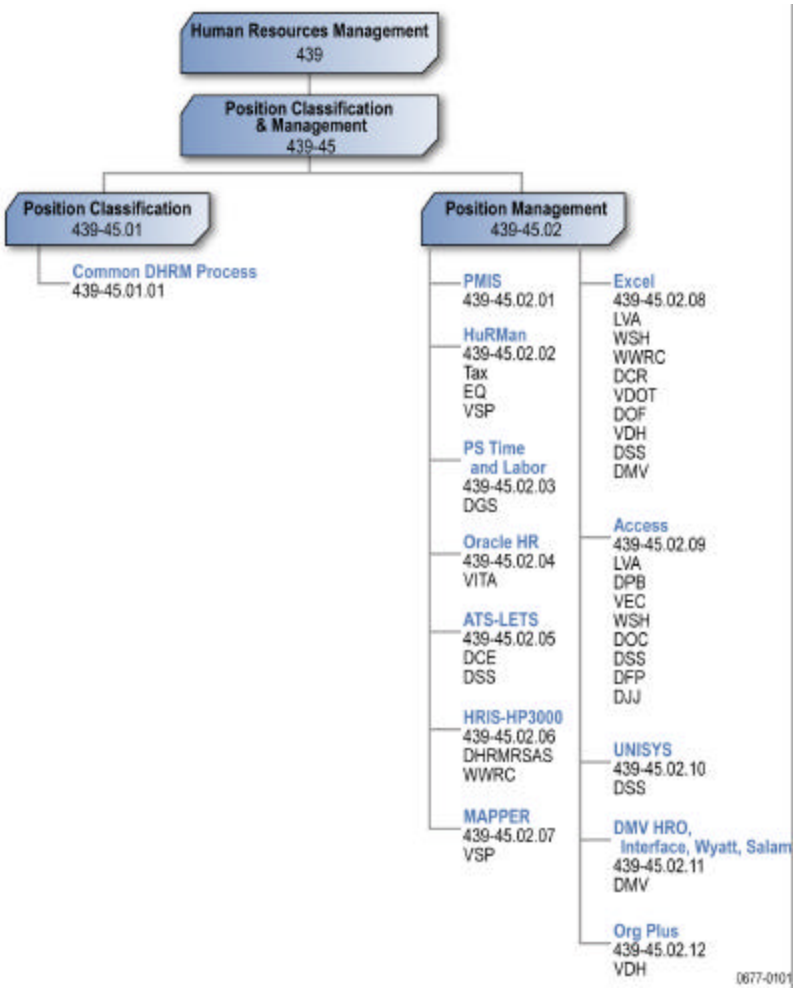
Process Characteristic	Description
Process Description	There is a common process implemented in all agencies for Position Classification. The process if defined by the Department of Human Resources. The process begins with the identification of the need for a new position or a change to a position classification. Agencies are responsible for the development of job descriptions the evaluation of the job and the establishment of the unique position code. See Figure 2-16: Position Classification and Management Process Decomposition Chart, below.
Starting Points	▪ Identified need for a new position ▪ Change in a position's duties, responsibilities and accountabilities that may justify a change in classification
Ending Points	▪ New Position Classification entered into PMIS ▪ Decision that no change in Position Classification is warranted
Variations	The only variation allowed in the agencies is in the approval process. Each agency is allowed to specify the number of levels required for approval of a new Classification.
Blockages	There are no identified blockages in the Position Classification and Management Process.
Fragmentations	There is no identified fragmentation of the Position Classification and Management Process.

Process Characteristic	Description
Points of process intersection, integration, and conflict	▪ Position Classification/Position Management – the Position Classification Process is a prerequisite to the Position Management Process. A unique Position Code cannot be created until a Position Classification exists in the PMIS system. ▪ Position Classification/Personnel Action Processing – Changes to Position Classification will trigger Personnel Action Processing for affected employees. This can be individual actions or a mass process.
Controls	DHRM Position Classification Audits – DHRM has the responsibility to review agency classification results to assess the consistent application of the position classification process.
Points of redundancy	There are no identified points of redundancy in the Position Classification and Management Process.
Duplication of effort and data	There is no identified duplication of effort or data in the Position Classification and Management Process.
System instances and interfaces	There are no separate system instances or interfaces related to the Position Classification and Management Process.
Process orientation	The Position Classification Process is a distributed process. Procedures and guidelines are established by the DHRM. The implementation of the process is the responsibility of the agency HR Departments. The HR Service Bureau provides this service to the 11 agencies that are served by the Bureau.
Sourcing arrangements	The HR Service Bureau provides this service to the 11 agencies that are served by the bureau.

Position Classification and Management Process Decomposition

The process decomposition Figure 2-16 was created based on information gathered during the due diligence Phase of the Enterprise Applications PPEA. The decomposition is a composite of process entities gathered from the 35 responding agencies. Thus, not all agencies are performing each function.

Figure 2-16: Position Classification and Management Process Decomposition Chart



Position Classification and Management Strengths and Weaknesses

During the due diligence process, the agencies were asked to identify the specific strengths (designated by a green indicator) and weaknesses (designated by a red indicator) of the HR Processes. Table 2-16 is a summary of the feedback received from the agencies, the Commonwealth Partners assessment of the impact of the strength or weakness on the process, and the rationale for the designation. Unless specifically highlighted, the Commonwealth Partners concurs in the assessment of the Commonwealth staff.

Table 2-16: Position Classification and Management Strengths and Weaknesses

Risk Indicator	Strength or Weakness Description	Impact	Rationale
	Local Control	High	Agencies have flexibility in the classification process that reduces delays and enables local authority
	Central Guidance	Low	DHRM provides policies and guidelines to agency HR in the Position Classification and Management Process that provides a level of consistency across the Commonwealth

Risk Indicator	Strength or Weakness Description	Impact	Rationale
	Insufficient Position Differentiation	High	The current classification structure may be too broad. It was changed from ~1600 job classes to less than 300 roles. There are some agencies that may require more structure to the process as of a result of the types of positions, career track and market conditions within their respective agencies. Some agencies continue to use the old classifications or are using SOC Codes in order to get the level of specificity they need.

2.3.3 Personnel Action Processing

Each agency is responsible for the processing of its personnel actions and maintenance of the official personnel file for each employee. DHRM has established an HR Service Bureau that smaller agencies can use rather than establish their own HR Department. Currently, 11 agencies (including DHRM) use the Service Bureau. All transactions are processed in PMIS and PMIS generates a standard form (P-3) for all transactions. The P-3 is the official record of the transaction and is the vehicle for communication of payroll related changes to the Payroll Department.

Process Characteristic	Description
Process Description	All personnel actions must be entered in PMIS. The employee or supervisor initiates the process when a triggering event occurs. The appropriate data for the event is entered on to the P-3 form that is sent to the agency HR Department for review and data entry into PMIS. If the event triggers a pay change the P-3 is forwarded to Payroll for entry into CIPPS. See Figure 2-17: Personnel Action Processing Process Decomposition Chart, below.
Starting Points	All personnel actions begin with some change in an employee's status or pay. These include: ▪ New Hire ▪ Transfer ▪ Promotion ▪ Name and/or address change ▪ Salary Change ▪ Separation – Resignation, Retirement, Involuntary Termination
Ending Points	The ending point for all personnel actions is an updated record in the PMIS database (and the agency HR system, where appropriate.) For transactions that affect pay, an additional end point is an updated record in CIPPS.
Variations	All personnel actions are defined by DHRM. A transaction code is assigned to each transaction.
Blockages	The major blockage in personnel action processing is the lack of Wage employee data in the central HR system. This diminishes the ability of the Commonwealth to report on and assess HR Key Performance Indicators on an enterprise basis.
Fragmentations	The major fragmentation of personnel action processing is the exclusion of Wage employees from PMIS. This has resulted in the need to develop agency HR systems to track and process records for Wage employees.
Points of process intersection, integration, and conflict	Personnel Action Processing/Payroll Management Intersection – specific personnel actions will trigger payroll actions.
Controls	▪ **HR Policy**: DHRM formulates and communicates consistent HR Policies across the Commonwealth. ▪ **Virginia Personnel Act**: Commonwealth statute that defines personnel practices. ▪ **Transaction Codes**: only those transactions that have a PMIS transaction code can be processed. This provides a consistent set of transactions across the Commonwealth.

Process Characteristic	Description
Points of redundancy	There are two major points of redundancy: ▪ **CIPPS** – for all actions that affect pay records must be updated in both PMIS and CIPPS. Some agencies take advantage of automated interfaces provided by State Payroll Operations for transactions (except New Hire). Many agencies are unaware that these interfaces exist. Even where the interfaces are implemented there is still a need to maintain two databases with identical data elements. ▪ **Local Agency HR Systems** – because PMIS does not include Wage employees, many agencies have implemented their own HR "system". These systems range from Excel Spreadsheets to Access databases to custom built agency applications to commercial off the shelf applications such as PeopleSoft.
Duplication of effort and data	▪ **Duplicate data entry**: for all transactions affecting employee pay, data must be entered into PMIS and CIPPS. In addition, if an agency maintains a separate HR System combining Wage and Classified employees, the data must be entered into this system. For selected agencies, automated interfaces have been developed to eliminate the need to key enter the data into CIPPS. Even where they exist there is an exception to the automated interfaces. All new hires must be manually key entered into both PMIS and CIPPS (and the local agency HR system, if applicable.) ▪ **Duplicate data**: Duplicate indicative data (name, social security number, address, salary info, job info) is maintained in PMIS, CIPPS and agency HR Systems. In addition, for agencies that have automated Time and Labor Processes, Indicative data must be maintained in that system as well.
System instances and interfaces	PMIS consists of a database that is used for processing and managing personnel, compensation, and health benefits data. The database is composed of secretary, agency, position, and classification and employee information. Actions that impact these areas are reflected in the database through processing of various transactions. For active permanent employees, the database maintains a history of all transactions and the current employee record. For separated employees, the database maintains a history of all transactions. The Commonwealth employs a Unisys mainframe using a proprietary network database and a proprietary user interface, running real-time transactions. In addition, DHRM uses a data warehouse in relational Oracle databases on a UNIX service. DHRM also runs data in Windows NT environments using Microsoft SQL Server. The main functions of PMIS are complemented by its subsystems, which have unique functions. These include the Personnel Data Analysis System, the Benefits Eligibility System (BES), RECRUIT, the Wage Employee System, the Minority/Female Talent Bank System, and the Employee Suggestion System Program. The major PMIS sub-systems are: ▪ **Benefits Eligibility System (BES)**: Used to maintain health insurance carrier and employee eligibility information on all state employees, retirees, and their dependents. ▪ **Personnel Data Analysis System (PDAS)**: Used by agencies that require information not found in the standard PMIS reports. PDAS is an on-line interactive system entirely controlled and manipulated by the user agency. Data is extracted from PMIS and loaded into PDAS. Users may manipulate the data and produce specialized reports to meet internal management information needs. The data may also be downloaded in a PC-compatible format for further usage in PC-based applications. ▪ **RECRUIT**: The state's job posting system. It combines PMIS data with data provided by agencies to produce descriptions of vacant classified positions for which the state is currently recruiting. ▪ **Wage Sub-System**: This is not a data entry tool since DHRM does not collect information on wage employees. DHRM receives an extract file from Accounts on a semi-monthly basis and this feed populates and updates the Wage sub-system.

Process Characteristic	Description
	BES is a major subsystem of PMIS. However, the initial employee record in BES, that allows an employee to utilize the self-service function, is established through an interface with CIPPS (payroll system). Within BES, health benefit records are maintained on all eligible employees, employee dependents, and participating retirees. Eligibility records are passed from BES to the health care providers and the prescription drug provider. These organizations use BES data to maintain their membership system for claims processing. Many agencies have established separate systems to track Wage employees. These systems are listed in Table 2-17: Personnel Action Processing Strengths and Weaknesses, below. There are automated interfaces established between PMIS and CIPPS for transactions following New Hire. They are not mandatory and are not universally used by the agencies.
Process orientation	Personnel Action Processing has a combination process orientation. There is a centralized process for the storage of classified employee actions through PMIS with a decentralized process for the capture and entry of personnel actions. There is some centralization through the use of the HR Service Bureau for a limited number of agencies. For Wage employee transactions the process is completely distributed to the agencies.
Sourcing arrangements	There are no alternate sourcing arrangements connected to Personnel Action Processing.

Personnel Action Process Decomposition

The process decomposition Figure 2-17 was created based on information gathered during the due diligence Phase of the Enterprise Applications PPEA. The decomposition is a composite of process entities gathered from the 35 responding agencies. Thus, not all agencies are performing each function.

Figure 2-17: Personnel Action Processing Process Decomposition Chart

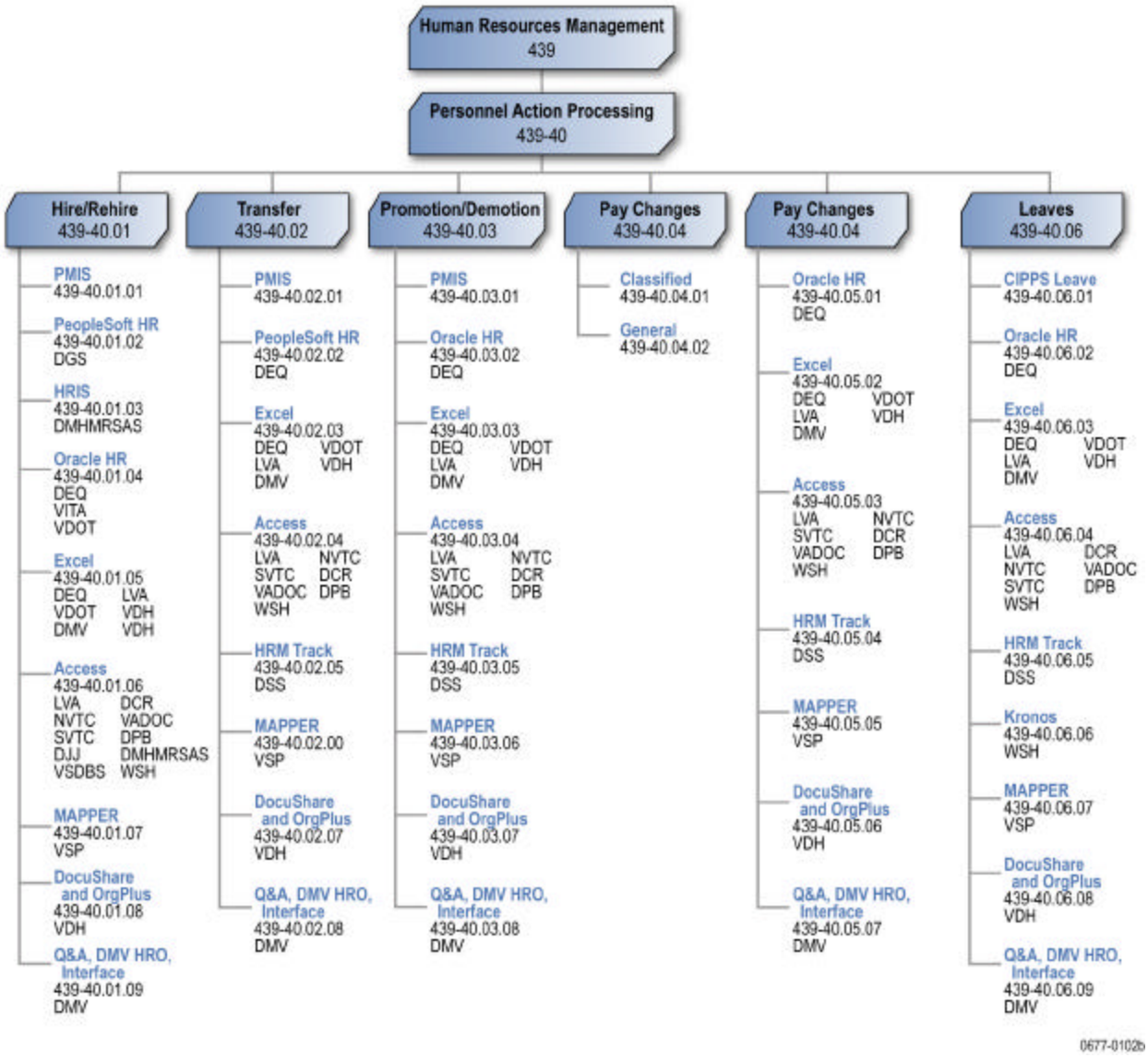


Table 2-17: Personnel Action Processing Strengths and Weaknesses

Agency	System Name	Year Initiated	Type	Technology
VITA	Personnel System	2nd Qtr 2001	Custom built- Agency only	Oracle iDS (Forms, Reports, Queries), VS.Net 2003 / Oracle 9i / VB.NET, PL/SQL
ABC	Human Resources	2004	Customer built- Agency only	Java
ABC	Incident Based Reporting	Pre 2001	Commercial package – Agency only	VB
DCE	Local Employee Tracking System (LETS)	2003	Custom built- Agency only	MS Access
DCJS	HRIS – Human Resource Tracking System	1999	Custom built- Agency only	MS Access

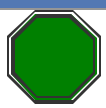
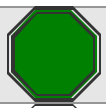
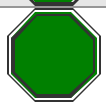
Agency	System Name	Year Initiated	Type	Technology
DCR	Employee Phone Directory	5/1/1999	Custom built- Agency only	Visual Basic/ Access
DCR	HR Profile	5/1/2000	Custom built- Agency only	Visual Basic/ Access
DHRM	BES – Benefit Eligibility System is a sub-system of PMIS. Benefits Administrators across the Commonwealth use the system to determine eligibility and enroll employees, retirees, and extended coverage beneficiaries	1988	Custom built- Statewide	UNISYS OS2200 – COBOL DMS / TIP-DPS
DHRM	BES_VIPERS interface		Custom built- Statewide	UNISYS OS2200 – COBOL DMS / TIP-DPS
DHRM	EEO Assessment		Custom built- Statewide	SAS/ MS W2003/ SQL Server
DHRM	EEO Calculator		Custom built- Statewide	SAS/ MS W2003/ SQL Server
DHRM	PMIS – Personal Management Information System is an on-line transaction-based system. PMIS contains employee and benefits records of all active and separated employees for the Executive Branch, Higher Education faculty, and employees of certain agencies		Custom built- Statewide	UNISYS OS2200 – COBOL DMS / TIP-DPS
DHRM	PMP-Perform Management – rating evaluation for an employee		Custom built- Statewide	UNISYS OS2200 – COBOL DMS / TIP-DPS
DMA	Human Resources / Position Control	6/2001	Custom built- Agency only	Powerbuilder, SQL Server, MS Access
DMHMRSAS	EEO Tracking	2005	Custom built- Agency only	SQL Server
DRS/WWRC	EEO (Equal Employment Opportunity)	1996	Custom built- Agency only	HP/Image/Powerhouse
DRS/WWRC	HRS (employee information)	2000	Custom built- Agency only	HP/Image/Powerhouse
DRS/WWRC	Resource Directory	2003	Custom built- Agency only	SQL Server/ VB
DSS	LETS – COTS Local Employer Tracking System	1999	Commercial package- Agency only	Oracle
NVTC DMHMRSAS	Human Resource		Custom built- Agency only	
SSVTC	Human Resource & Tracking system		Custom built- Agency only	SQL Server 2000, MS Access 2002
VDEM	Rolodex- contact information		Custom built- Agency only	MS Access
VEC	HR reporting – Uses CIPPS, PMIS, &	1986	Custom built- Agency only	COBOL, Easytrieve

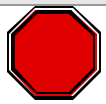
Agency	System Name	Year Initiated	Type	Technology
	internally maintained files to provide HR reports that are not otherwise available			
VSP	HR – Human Resource Management	1990s	Custom built- Agency only	Mapper
VSP	WAGE – Tracks wage, employee information, & time	1980s	Custom built- Agency only	Mapper
WSH	HR Dbase	2000	Custom built- Agency only	MS Access/ SQL
DCJS	Employee Connection – Intranet HR employee self-update	2003	Custom built- Agency only	Cold Fusion/ MS Access
DHRM	EmployeeDirect – Employee portal for health benefits		Custom built- Agency only	MS 2003 / SQL Server/ MITEM Server

Personnel Action Processing Strengths and Weaknesses

During the due diligence process, the agencies were asked to identify the specific strengths (designated by a green indicator) and weaknesses (designated by a red indicator) of the HR Processes. Table 2-18 is a summary of the feedback received from the agencies, the Commonwealth Partners assessment of the impact of the strength or weakness on the process and the rationale for the designation. Unless specifically highlighted, the Commonwealth Partners concurs in the assessment of the Commonwealth staff.

Table 2-18: Personnel Action Processing Strengths and Weaknesses

Risk Indicator	Strength or Weakness Description	Impact	Rationale
	All personnel action processes are well defined	High	HR Policy is centrally set by DHRM. HR Transaction requirements are set by PMIS requirements. PMIS Users Manual is available on-line and easily accessible to all users.
	Accuracy	High	On line edits and online help in PMIS ensure that valid information is entered.
	Robust PMIS query reporting tool available to users in the PMIS data warehouse, as well as a number of standard reports	Medium	Supports decentralized, local decision making

Risk Indicator	Strength or Weakness Description	Impact	Rationale
	Lack of integrated system	High	▪ There is no system interface between PMIS and CIPPS, requiring each agency to establish an employee record in each system. A correction to an employee record most often requires updates to two systems (PMIS and CIPPS). ▪ Reconciliation of the personnel system data and payroll system data is a difficult and time consuming task. ▪ Lack of integration with Short Term Disability insurance carrier requires additional work to properly process employees on leaves that involve disability and/or workers compensation. ▪ Transferring employees between two agencies is difficult and time consuming.
	Redundant data entry	High	Agency HR systems do not interface with CIPPS requiring agencies to enter every wage employee transaction twice.

2.3.4 Payroll Management

State Payroll Operations: The State Payroll Operations is responsible for running the largest of the Commonwealth's payroll and leave systems. Its organization consists of a Payroll Production Team, Payroll/Benefit Accounting Team, and an Agency and Assistance Training Team. Most Commonwealth employees (100,000-plus) are currently served by DOA's central payroll and leave system.

In addition to running the system that calculates and disburses salaries and wages, State Payroll Operations is also responsible for federal and state tax compliance. This includes interpreting tax law, implementing system modifications, developing policies and procedures, and training users. Other central activities include federal tax depositing and reporting, payroll accounting, accounting and disbursement processing for benefit deductions, payroll auditing, and payroll system end-user training.

State Payroll Operations has a staff of twelve (12) including a Director, five (5) Benefits Accounting/Security analysts, four (4) Payroll Production analysts and two (2) agency Assistance and Training analysts.

Payroll Service Bureau: The Payroll Service Bureau (PSB) is responsible for processing participating agency level Payroll, Leave Accounting and certain Benefits data entry functions. The service bureau is comprised of a staff of eleven (11), including a manager and eight (8) payroll accountants (payroll and benefits analysts), each of whom supports an average of 600 salaried and wage employees.

The General Assembly approved the establishment of a service center in the Department of Accounts as processing agency for agency Payroll, Leave Accounting and certain Benefits data entry functions for selected agencies, (Chapter 912 of the FY 97/98 Appropriation Act). In July 1996, the bureau began operation, supporting approximately 1,780 employees in 17 agencies.

Since that time, it has grown to its present support level of over 6,000 employees in 34 agencies. Funding for the PSB comes primarily from three sources. For the 17 agencies that were part of the original PSB, annual funding is appropriated directly to DOA. The remaining 17 agencies are charged a fee based on the number of W2's produced for the agency or Part 3 transfers are made to fund their share of the costs.

Process Characteristic	Description
Process Description	**State Payroll Operations** ▪ **Payroll Production**: Mutually responsible with agency payroll staffs for ensuring that all payrolls are processed accurately and timely. Activities include, scheduling payroll production jobs, problem resolution, payroll certification monitoring, check write reconciliation, payroll report requests, recovery and distribution, direct deposit and tax deposit file transmissions, and direct deposit program administration. ▪ **Payroll/Benefit Accounting**: Responsible for accounting, reconciliation and disbursement processing for employee payroll and benefit programs including healthcare, flexible benefits, savings bonds, deferred compensation, and CVC. Other activities include preparation of IRS form 941 (Employer's Quarterly Federal Tax Return) for all CIPPS agencies, release of CIPPS checkwrites into CARS, reconciliation of payroll expenditures in CARS to disbursements by the Treasurer of Virginia, and administering Millennium password security for all CIPPS users. ▪ **Agency Assistance and Training**: Responsible for providing agency users procedural assistance on the processing features of the CIPPS Payroll and Leave Accounting systems. This team conducts the Introductory to Payroll and Leave training programs on a semi-annual basis and provides updates on new system updates and changes. This team also tests system enhancements and establishes processing and procedural guidelines. **Payroll Service Bureau** ▪ **Payroll Processing**: Payroll processing and preparation of all payroll-related certifications and reconciliations. ▪ **Leave Accounting**: Provided the participating agency uses the CIPPS Leave Accounting System, the bureau will perform leave data entry, review and audit of leave information, and the annual reconciliation of Leave Liability. ▪ **BES Data Entry**: For agencies of fewer than 100 classified employees, the bureau will perform BES data entry, at the agency's request. ▪ **Reconciliations and Information Returns**: The bureau prepares reconciliations and information returns on behalf of the participating agency and forwards the reconciliation and certification materials to agency management for their approval and authorization. See Figure 2-18: Payroll and Expense Reimbursement Decomposition Chart, below.
Starting Points	▪ New Hire ▪ Promotion ▪ Separation ▪ Miscellaneous Pay Actions ▪ Quarterly and Annual Processes (Federal Tax Filing and W2)
Ending Points	▪ Paycheck ▪ W2 ▪ Federal Tax Filings
Variations	In general, payroll processes are standardized across the Commonwealth. There are two agencies that manage separate payrolls for non-Commonwealth employee groups. The Department of Corrections has established a Payroll for Inmates system to pay inmates in corrections facilities for the hours that are worked on DOC commercial ventures. The Department of Rehabilitation Services has a similar payroll function for agency clients who work in DRS commercial ventures.

Process Characteristic	Description
Blockages	There are no identified blockages in the Payroll Management Process.
Fragmentations	The major fragmentation of the payroll process is the exclusion of Wage employees from PMIS. This has resulted in the need to develop agency HR systems to track and process records for Wage employees. These records then need to be entered into CIPPS. Each agency is free to develop its own process and system for Wage employees and the processes range from highly automated processes supported by state of the art applications from PeopleSoft and Oracle, to moderately complex processes supported by Microsoft Access databases to simple manual processes.
Points of process intersection, integration, and conflict	▪ Payroll/ Personnel Action Processing Integration/Intersection – Personnel Actions that affect employee gross or net pay are passed to Payroll either through an automated interface or through manual entry of transactions. Form P-3 is generated by the Personnel Action Processing and used by the payroll process as the source document for data entry. ▪ Payroll/Time and Labor Integration/Intersection – Hours to be paid are passed from the Time and Labor process to Payroll process for calculation of gross and net pay.
Controls	▪ HR Policies – Establish pay practices ▪ FLSA and State Labor Laws – determine methods for calculation of overtime ▪ State Payroll Operations Procedures – Establish consistent processes for Commonwealth payroll operations
Points of redundancy	There are two major points of redundancy: ▪ PMIS – for all actions that affect pay, records must be updated in both PMIS and CIPPS. Some agencies take advantage of automated interfaces provided by State Payroll Operations for transactions (except New Hire). Many agencies are unaware that these interfaces exist. Even where the interfaces are implemented there is still a need to maintain two databases with identical data elements. ▪ Local Agency HR Systems – because PMIS does not include Wage employees, many agencies have implemented their own HR "system". These systems range from Excel Spreadsheets to Access databases to custom built agency applications to commercial off the shelf applications such as PeopleSoft.
Duplication of effort and data	▪ Duplicate data entry – for all transactions affecting employee pay, data must be entered into PMIS and CIPPS. In addition, if an agency maintains a separate HR System combining Wage and Classified employees, the data must be entered into this system. For selected agencies, automated interfaces have been developed to eliminate the need to key enter the data into CIPPS. Even where they exist there is an exception to the automated interfaces. All new hires must be key entered into both PMIS and CIPPS (and the local agency HR system, if applicable). ▪ Duplicate data – Duplicate indicative data (name, social security number, address, salary info, job info) is maintained in PMIS, CIPPS and agency HR Systems. In addition, for agencies that have automated Time and Labor Processes, indicative data must be maintained in that system as well.
System instances and interfaces	There is one instance of CIPPS managed by DOA. CIPPS has the following major sub-systems: ▪ CIPPS-Leave: Used to track employee leaves of absence ▪ Payroll Audit Tool: A Windows compatible automated desktop application that facilitates the review and comparison of key payroll and leave information using reports and data downloaded from CIPPS Financial Information Downloading System (FINDS). ▪ Benefits Eligibility System (BES): Used to maintain health insurance carrier and employee eligibility information on all state employees, retirees, and their dependents. There is a daily interface from BES to CIPPS. ▪ Wage Sub-System: Not a data entry tool since DHRM does not collect information on wage employees. DHRM receives an extract file from Accounts on a semi-monthly basis and this feed populates and updates the Wage sub-system. Interface files are generated from CIPPS for the following: ▪ Virginia Retirement System (VRS)- Group Life, Retiree Credit, Retirement and LTD

Process Characteristic	Description
	▪ Combined Virginia Campaign ▪ Great West – Deferred Compensation ▪ Supplemental Insurance and Annuities ▪ Flex Spending ▪ Optional Group Life ▪ Bonds ▪ VPEP/VEST ▪ DSS/Child Support ▪ Direct Deposit See Table 2-19: Commonwealth of Virginia Payroll Systems, below.
Process orientation	The Payroll Process is a combination process. There is a common payroll application that is managed by the Department of Accounts – State Payroll Operations. Each agency has a Payroll Department to manage the following: ▪ Payroll Processing – Payroll processing and preparation of all payroll-related certifications and reconciliations. ▪ Leave Accounting - Provided the participating agency uses the CIPPS Leave Accounting System, the bureau will perform leave data entry, review and audit of leave information, and the annual reconciliation of Leave Liability. ▪ BES Data Entry - For agencies of fewer than 100 classified employees, the bureau will perform BES data entry, at the agency's request. ▪ Reconciliations and Information Returns – The bureau prepares the following reconciliations and information returns on behalf of the participating agency and forwards the reconciliation and certification materials to agency management for their approval and authorization. ▪ CIPPS/PMIS Compare Explanations ▪ Gross Pay Differences Justifications ▪ Imputed Life Audit ▪ VEC New Hire Verification ▪ Control Totals of Taxable Wages and Taxes Withheld ▪ "10 to 33" Reconciliation of Taxable Wages ▪ 1,500 Hour Wage Employee Tracking ▪ Healthcare Reconciliation ▪ VRS Retirement, Group Life and Optional Group Life Reconciliation ▪ Deferred Compensation Annuities and Cash Match Benefit Audit ▪ Non-Virginia State Withholding remittance of taxes ▪ EPR Reporting ▪ Quarterly Certification of Taxable Wages ▪ Quarterly VEC Unemployment Return and Work Site Reporting ▪ Fiscal Year-end Leave Liability Reconciliation ▪ Annual Certification of W-2 Totals, including distribution of W-2's and preparation of annual information returns for reciprocal states The Payroll Service Bureau performs these functions for the 34 agencies that contract with it.
Sourcing arrangements	There are no alternate sourcing arrangements connected to the payroll management processes.

Payroll Management Process Decomposition

The decomposition Figure 2-18 was created based on information gathered during the due diligence phase of the Enterprise Applications PPEA. The decomposition is a composite of process entities gathered from the 35 responding agencies. Thus, not all agencies are performing each function.

Figure 2-18: Payroll and Expense Reimbursement Decomposition Chart

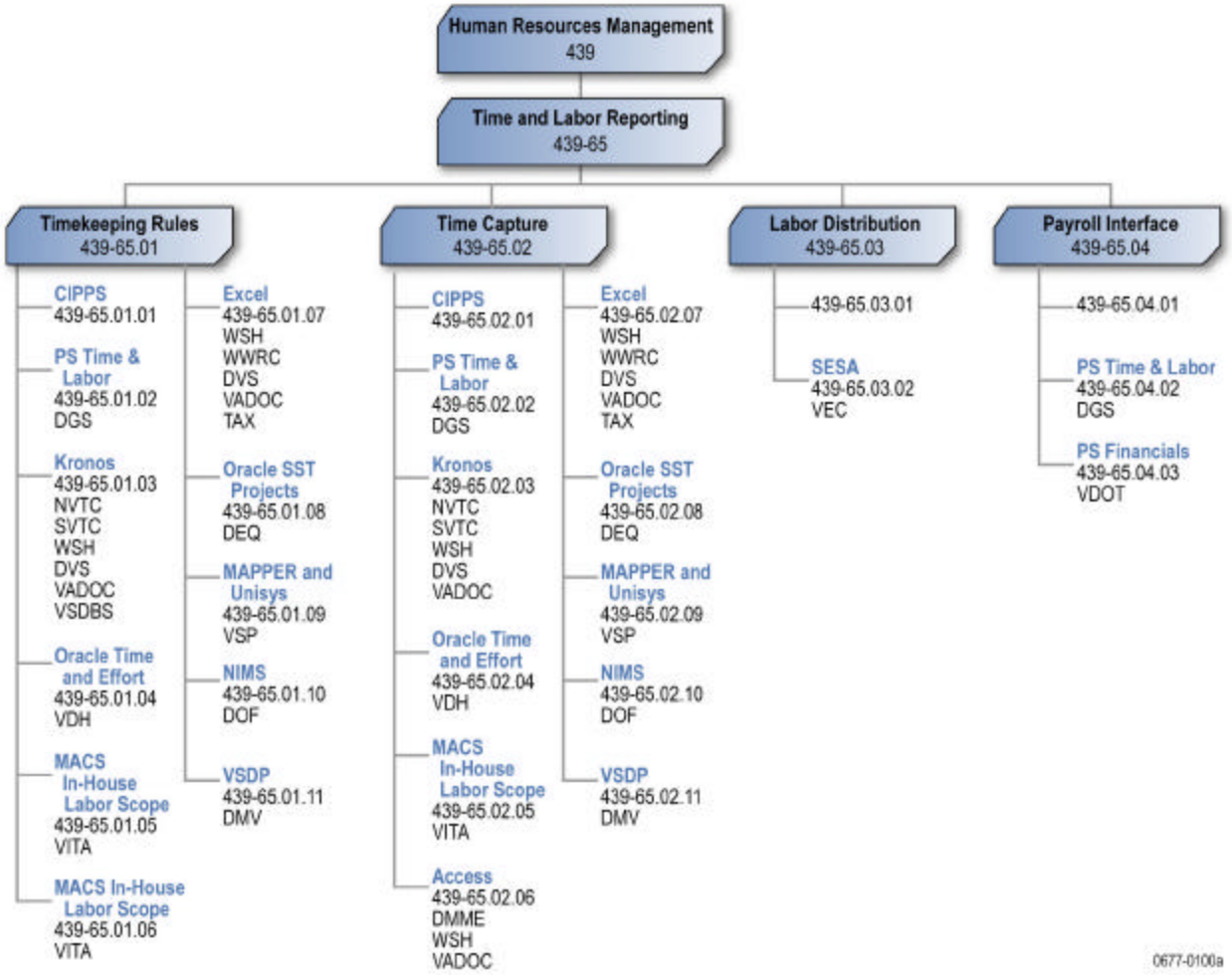


Table 2-19: Commonwealth of Virginia Payroll Systems

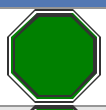
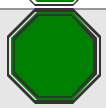
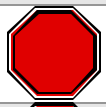
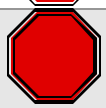
Agency	System Name	Year Initiated	Type	Technology
DOA.	CIPPS - Commonwealth Integrated Personnel and Payroll System	1986	Commercial package – State wide	CICS, COBOL, PDL, Millennium, VSAM
DOA.	Payline - Web Payroll/Leave Information Site	2001	Custom -built – State wide	Coldfusion, SQLSVR, Java, Javascript, C++, Date Encr.
DRS/WWRC	Payroll (employee pay)	1998	Custom -built – Agency only	HP/Image/Powerhouse
VADOC.	Inmate Payroll	1987	Custom -built – Agency only	COBOL

Payroll Management Strengths and Weaknesses

During the due diligence process, the agencies were asked to identify the specific strengths (designated by a green indicator) and weaknesses (designated by a red indicator) of the HR Processes. Table 2-20 is a summary of the feedback received from the agencies, the Commonwealth Partners assessment of the impact of the strength or weakness on the process and

the rationale for the designation. Unless specifically highlighted, the Commonwealth Partners concurs in the assessment of the Commonwealth staff.

Table 2-20: Payroll Management Strengths and Weaknesses

Risk Indicator	Strength or Weakness Description	Impact	Rationale
	Payline feature – allows employees to view on-line pay statements	Med	Reduces the need for employees to contact the agency or DOA Payroll departments for basic inquiries
	Payroll Service Bureau	High	▪ Reduces training needs for agencies ▪ Provides uniform payroll processes for the agencies served ▪ Quality product – reduction on Voids, Special payment
	Lack of system integration	High	The state payroll system (CIPPS) and the personnel system (PMIS) do not interface. This results in double data entry and redundant data
	Lack of VSDP Integration	High	There is manual process to integrate payments from VSDP, Worker's Compensation and Employee Leave balances. There are no edits or appropriate leave types in the system to integrate with VSDP

2.3.5 Evaluation

There is a Commonwealth-wide standard for performance evaluation. The Employee Work Profile (EWP) is the key document in the process. It combines the employee's work description, performance plan and evaluation in a single document. Employee evaluations must be done at least annually on a common review date and the final rating must comply with the mandated three-tier rating scale (Extraordinary Contributor, Contributor or Below Contributor). Agencies are free to develop their own systems and rating scales as long as the ratings can be mapped back to the Commonwealth's 3 ratings. Additional employee evaluations are required at the conclusion of the employee's probation period (normally 12 months of employment) and an interim review can be done.

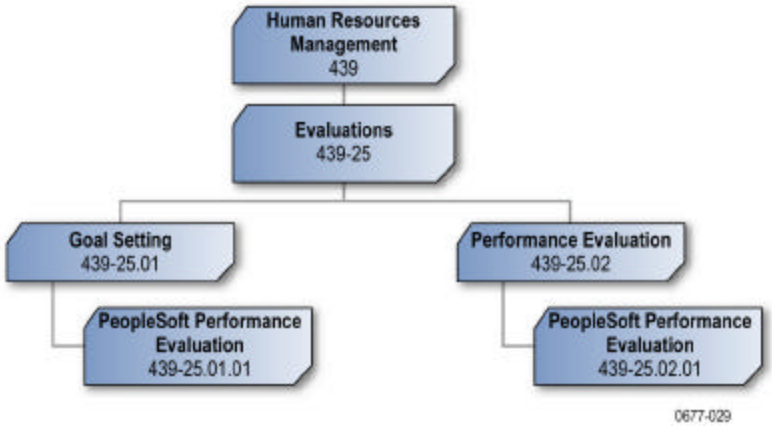
Process Characteristic	Description
Process Description	The Evaluation process is based upon the employee's work description. Using the description as a guide, the employee and supervisor develop a performance plan at the beginning of the performance year. The plan is documented in the EWP. During the year interim evaluations may be prepared by the supervisor. On an annual basis a formal review must be conducted and documented in the EWP. See Figure 2-19: Evaluations Process Decomposition Chart, below.
Starting Points	Work Description
Ending Points	Completed Employee Work Profile
Variations	Under Commonwealth HR Policy, agencies are free to develop evaluation processes, forms and rating scales that are specific to the needs of the agency. The only restriction placed on the agency is that the rating scale must be mapped back to the Commonwealth's three-tier rating scale and the rating entered into PMIS must be the three-tier rating.
Blockages	The Commonwealth has a statutory incentive compensation plan that is tied to the three-tier rating scale. Since the passage of the compensation plan, the Legislature has failed to fund the incentive compensation plan and has instead allowed for only cost of living adjustments to the Commonwealth salary structures. Because there is a widespread perception that the Evaluations are not valuable to the Commonwealth because the incentive compensation is not funded, there is a

Process Characteristic	Description
	significant lack of incentive to complete evaluations on a timely basis.
Fragmentations	There are no identified fragmentations in the Evaluation Process.
Points of process intersection, integration, and conflict	There are no identified process intersections, integrations or conflicts in the Evaluation Process.
Controls	▪ HR Policy – establishes Commonwealth procedures for Evaluation process including rating scale, forms and approval levels. ▪ Virginia Personnel Act – Establishes the requirement for annual performance evaluation.
Points of redundancy	There are no points of redundancy in the Evaluation Process.
Duplication of effort and data	Performance Ratings are entered into PMIS and the agency HR System if applicable.
System instances and interfaces	There are no stand-alone systems or interfaces related to the evaluation process. PMIS and agency HR Systems are the repositories for performance ratings. EWPs are maintained locally.
Process orientation	The Evaluation process is distributed to the agencies with the ability to modify the process as necessary to meet the needs of the agency.
Sourcing arrangements	There are no alternate sourcing arrangements connected to the Evaluation Process.

Evaluation Process Decomposition

The decomposition chart Figure 2-19 was created based on information gathered during the due diligence Phase of the Enterprise Applications PPEA. The decomposition is a composite of process entities gathered from the 36 responding agencies. Thus, not all agencies are performing each function.

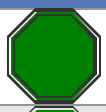
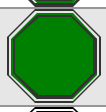
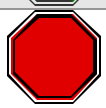
Figure 2-19: Evaluations Process Decomposition Chart



Evaluations Strengths and Weaknesses

During the due diligence process, the agencies were asked to identify the specific strengths (designated by a green indicator) and weaknesses (designated by a red indicator) of the HR Processes. Table 2-21 is a summary of the feedback received from the agencies, the Commonwealth Partners assessment of the impact of the strength or weakness on the process and the rationale for the designation. Unless specifically highlighted, the Commonwealth Partners concur in the assessment of the Commonwealth staff.

Table 2-21: Evaluations Strengths and Weaknesses

Risk Indicator	Strength or Weakness Description	Impact	Rationale
	Commonwealth-wide process	High	All agencies have access to a common process and form.
	Flexibility	High	Agencies have options to develop their own rating scale forms and processes to meet specific agency requirements
	Lack of support from Legislature	High	Lack of funding to support employee performance evaluation policy. State Legislature has not funded pay for performance. Therefore there is no incentive for supervisors to complete the evaluation process in a timely fashion

2.3.6 Applicant Intake and Recruiting

There is a common Commonwealth-wide process for applicant intake and recruiting that uses the RECRUIT subsystem of PMIS. All position openings must be entered into RECRUIT and all openings (except "Agency Only") must be posted on the Virginia Jobs website. The recruitment process is decentralized to the agencies. The HR Service Bureau provides recruitment services to the 11 agencies using the Service Bureau.

Process Characteristic	Description
Process Description	The Applicant Intake Process begins with the need for a new or replacement employee by an agency. The hiring manager prepares a requisition, secures the appropriate approvals and forwards the requisition to the agency Human Resources Department. The HR Department posts the open position on Virginia Jobs (the Commonwealth-wide Internet Recruiting Website.) Applicants submit applications either in hard copy or online. The HR Department screens the applicants and forwards qualified applicants to the hiring manager for interview. Following interviews the hiring manager selects the best qualified candidate and the HR Department extends a job offer. See Figure 2-20: Applicant Intake and Recruiting Process Decomposition Chart, below.
Starting Points	▪ Requisition ▪ Job Application
Ending Points	▪ New Hire ▪ Rejection letter
Variations	▪ Approval Processes – each agency establishes it own approval process for Recruiting ▪ HR Service Bureau – the HRSB provides Applicant Intake and Recruiting services to the 11 agencies it serves ▪ Agencies provide services to other agencies – some agencies secure Applicant Intake and Recruiting services from other agencies
Blockages	There are no identified blockages in the Applicant Intake and Recruitment Process.
Fragmentations	There are no identified fragmentations in the Applicant Intake and Recruiting Process.
Points of process intersection, integration, and conflict	Applicant Intake and Recruitment/Personnel Action Processing intersection – at the completion of the Applicant Intake and Recruiting Process data must be passed to the Personnel Action Process to allow for the New Hire, Promotion or Transfer transaction to be processed
Controls	▪ Agency Budget ▪ Agency MEL (Maximum Employment Level)

Process Characteristic	Description
	▪ Executive Order #9 (02) requires written approval from the appropriate Secretary to fill any vacant position. ▪ Executive Order #73 (01) requires all agencies in the Commonwealth's Executive Branch to participate in DHRM's centralized recruitment program. This program requires agencies to post all vacant positions (other than those advertised as internal to the agency only) in RECRUIT.
Points of redundancy	Individual agencies have established applicant tracking databases using a variety of technologies.
Duplication of effort and data	Duplicate entry into CIPPS and PMIS of indicative data gathered in the agency applicant tracking database or system.
System instances and interfaces	The RECRUIT System is the central Commonwealth system. Individual agencies have established applicant tracking systems. See Table 2-22: Commonwealth of Virginia Applicant Intake and Recruiting Systems, below.
Process orientation	The Applicant Intake and Recruiting Process is a distributed process. Each agency is responsible for its Applicant Intake and Recruitment. The HR Service Bureau provides centralized services for smaller agencies.
Sourcing arrangements	There are no identified alternate sourcing arrangements connected to the Applicant Intake and Recruiting Process.

Applicant Intake and Recruiting Decomposition

The decomposition chart Figure 2-20 was created based on information gathered during the due diligence Phase of the Enterprise Applications PPEA. The decomposition is a composite of process entities gathered from the 35 responding agencies. Thus, not all agencies are performing each function.

Figure 2-20: Applicant Intake and Recruiting Process Decomposition Chart

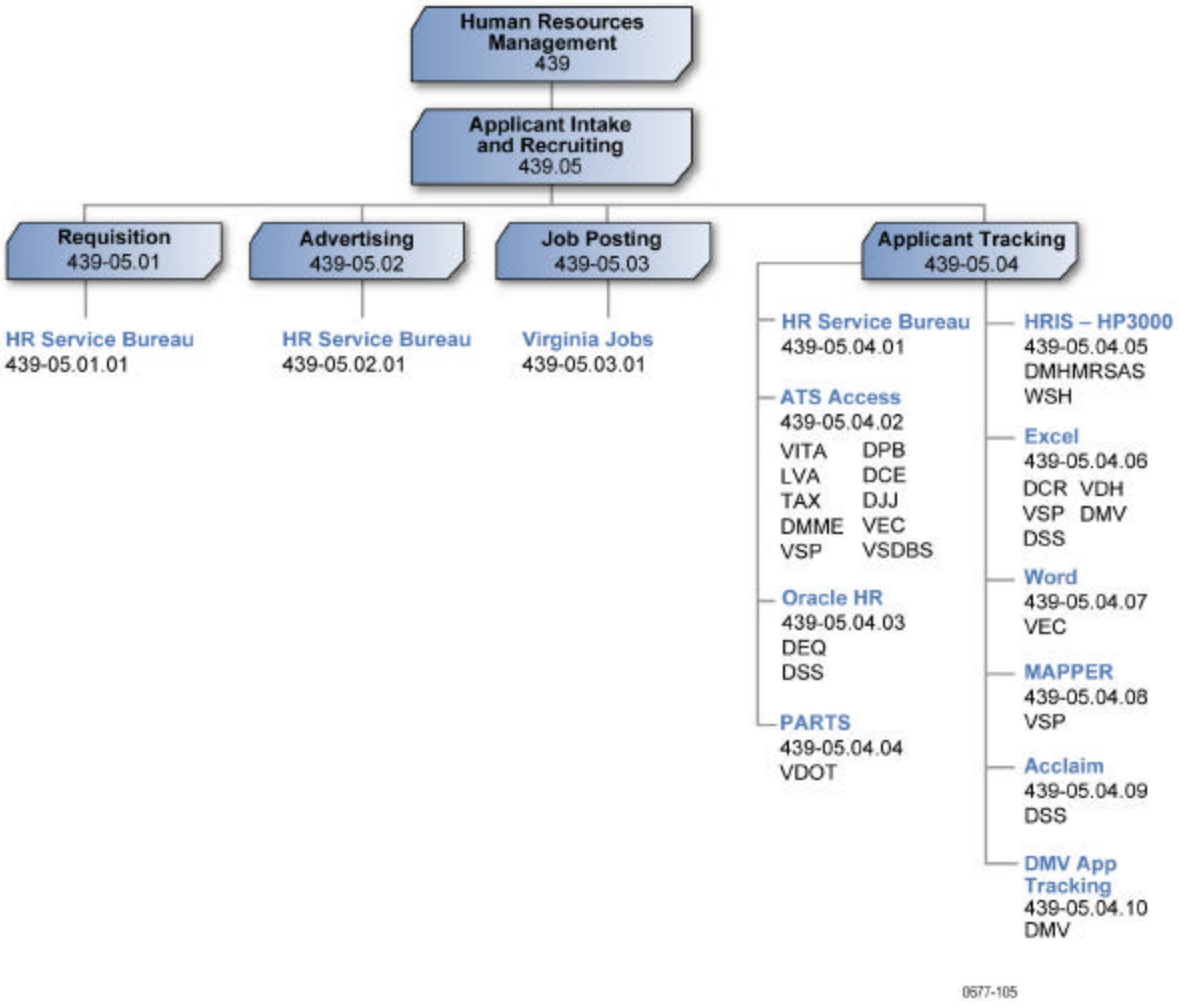


Table 2-22: Commonwealth of Virginia Applicant Intake and Recruiting Systems

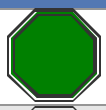
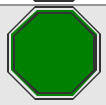
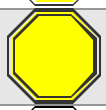
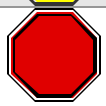
Agency	System Name	Year Initiated	Type	Technology
DMV.	Online State Application - Allows internal and external customers to apply for DMV jobs via the Internet	CY 2000	Custom-built – Agency only	asp, Windows 2000 Server/Oracle
DRS/WWRC	Applicant Tracking (vacant position/ hire process)	2000	Custom-built – Agency only	HP/Image/Powerhouse
VDACS	Applicant Tracking.	1989	Custom-built – Agency only	Oracle.
DHRM	RECRUIT - The state's job posting system. It combines PMIS data with data provided by agencies to produce descriptions of vacant classified positions for which the state is currently recruiting.		Custom-built – State wide	UNISYS OS2200 - COBOL DMS / TIP-DPS
DHRM	Workforce Query tools		Custom-built – State wide	SAS / MS W2003 / SQL server

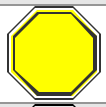
Agency	System Name	Year Initiated	Type	Technology
DCE	AESIS - Adult Enrollment and Student Info System	2001	Custom-built – Agency only	MS Access
DHRM	VirginiaJobs - Recruitment web portal for public		Custom-built – State wide	MS W2003 / SQL server
DCE	Applicant Tracking System (ATS)	2000	Custom-built – Agency only	MS Access
DHRM	Applicant flow		Custom-built – State wide	SAS / MS W2003 / SQL server
DPB	Applicant Tracking and Employee Training	Prior to 2000	Custom-built – Agency only	MS Access
DSS	HRMTrack State and Local position and applicant tracking		Custom-built – Agency only	MS Access
DSS	Recruitment		Custom-built – Agency only	MS Access
VDEM	Action Tracking System-track resource request, etc during declared emergencies	1997 (2004 upgraded)	Custom-built – Agency only	Access originally, converted to SQL Server

Applicant Intake and Recruiting Strengths and Weaknesses

During the due diligence process, the agencies were asked to identify the specific strengths (designated by a green indicator) and weaknesses (designated by a red indicator) of the HR Processes. Table 2-23 is a summary of the feedback received from the agencies, the Commonwealth Partners assessment of the impact of the strength or weakness on the process and the rationale for the designation. Unless specifically highlighted, the Commonwealth Partners concurs in the assessment of the Commonwealth staff.

Table 2-23: Applicant Intake and Recruiting Strengths and Weaknesses

Risk Indicator	Strength or Weakness Description	Impact	Rationale
	Commonwealth-wide application	High	While processes and systems incur minimal cost, manual processes and the lack of integration does not provide the recruiting function with adequate information.
	Use of Technology	Low	Applications may be submitted electronically, by fax, or paper. Electronic signatures are used. Search feature is enabled to allow applicant to find jobs that my fit their abilities and interests
	Flexibility	High	Agencies have options in posting their own recruitments
	Cost	High	All agencies are required to post all vacancy announcements on the RECRUIT website, except those vacancies that are open only to agency employees
	Usability	High	Lack of ability to send one application to multiple agencies at one time. Lack of capability to fill-out an application on-line and not have to attach an electronic application. This was in the works but because of budget reductions it was not completed

Risk Indicator	Strength or Weakness Description	Impact	Rationale
	Lack of Integration	High	Agencies can list the job opening on RECRUIT but the details of the opening are found by linking to the agency website. DHRM wants agencies to inform job seekers of the nature of a specific job, and wants agencies to include a brief description of duties of the advertised position in their job postings in RECRUIT, even when driving job seekers to individual agency employment pages
	Screening Capabilities	High	System lacks the ability to screen applications for basic requirements. Every application must be read by an HR Employee to screen out unqualified applicants
	Manual Processes	High	All application received by mail or fax are keyed into the RECRUIT system. All Applications are read by an employee for initial screening. Applications are copied and mailed to hiring managers for review

Human Resource Management AS IS Environment Architecture Conclusion

Human Resource Management processes within the Commonwealth of Virginia are highly distributed. While there are two major systems that form the backbone of the processes (PMIS and CIPPS) and central agencies (DOA and DHRM) establish policy and procedures, the individual agencies manage the processes and are given wide latitude, in many cases, to adapt the processes to agency needs.

The backbone systems (PMIS and CIPPS) are both legacy applications. They do not include much of the functionality available in current human resources applications, such as applicant tracking, performance management and time and labor tracking. The usability of the systems has been supplemented by the development of a data warehouse and web-based front end applications that provide adequate levels of employee and manager self-service.

There are two major shortcomings of the As Is environment. First, PMIS and CIPPS are not integrated. They maintain separate databases of employee information. This results in inaccurate or stale data. Automated interfaces have been developed for some transactions but they are not real time and they do not include all transactions, most notably the New Hire transaction. This results in double data entry for many transactions, increasing both the work effort and the opportunity for erroneous data to enter the systems.

The second shortcoming is the exclusion of wage employees from PMIS. The reason given for excluding this significant group of employees is large number of transactions they generate. This exclusion means that many agencies have developed and implemented their own systems for maintaining the information associated with these employees, again resulting in additional duplicate data entry and more opportunities for erroneous data.

To overcome the lack of functionality in the legacy systems, many agencies have also implemented their own timekeeping systems and applicant tracking systems using a variety of technologies and applications including PeopleSoft, Oracle, Kronos, and Microsoft Access.

The results of the lack of integration and functionality for the Commonwealth include:

- Increased costs of maintaining multiple systems
- Increased costs from duplicate data entry and manual processes
- Poor data quality

The problems caused by the current architecture and environment were well summarized in the Special Review Payroll and Human Resource Systems conducted by the Auditor of Public Accounts in October 2004. The Summary of the Report states:

> *"These systems are not compatible and therefore, a significant amount of duplicate data is collected, critical internal controls commonly associated with integrated payroll and human resource systems are missing, and the systems do not fully meet all of the Commonwealth's business requirements."*

2.4 Supply Chain Management

The Supply Chain Management functional area includes the following processes:

- Procurement (Goods and Services Acquisition)
- Inventory Management

2.4.1 Procurement (Goods and Services Acquisition)

Process Characteristic	Description
Process Description	Goods and Services Acquisition involves activities related to the procurement of goods and services for the Commonwealth. See Figure 2-21: Acquisition Process Decomposition Chart, below.
Starting Points and Ending Points	Goods and Services Acquisition begins with requisition and ends with the receipt of the requisitioned good or service.
Variations	The Goods and Services Acquisition process is subject to the Virginia Public Procurement Act (VPPA). As such there is a required adherence to at least minimum procurement policies and procedures. The VPPA and most rules issued by the Department of General Services (DGS) are contained in the Agency Procurement and Surplus Property Manual (APSPM) covering goods and nonprofessional services (excluding technology). Nonetheless, there are process variations between agencies. For example, some agencies use a paper based requisition process in addition to using eVA. VITA has responsibility for acquisition of technology-related goods and services and adheres to its own process.
Blockages and fragmentations	Comments received during the due diligence phase indicate that adherence to Commonwealth SWAM requirements has become onerous. See the Weaknesses section below for additional detail.
Points of process intersection, integration, and conflict	From the agencies surveyed during the due diligence, only a small number use an actual inventory management or warehouse management system. We found these tend to be the larger agencies. Most are using spreadsheets, Access databases, in-house systems, and/or manual logs. These diverse applications severely limit the amount of system integration or opportunity for such integration to occur. Process flow, information flow, auditing, performance measurement are all disjointed. At the point where Commonwealth processes intersect (i.e., Financial Management and Supply Chain Procurement), the handoff is mostly a manual effort.
Controls	The Commonwealth mandate for the use of eVA as the Commonwealth-wide procurement system has created both an integration point and conflict area. eVA acts as an integration mechanism in that data is aggregated and all purchase orders are released to vendors via the system. Based on survey responses, eVA is a source of conflict in that respondents identified shortcomings, such as training and system response time.
Points of redundancy and duplication of efforts and data	Survey responses and other information gathered during the due diligence phase indicate that some agencies duplicate data entry efforts (either from another system or manually input paper-based data into the eVA system). System interfaces and batch processing indicate redundant procurement data.
System instances and interfaces	The Commonwealth has invested heavily in the eVA procurement system. eVA provides Commonwealth-wide data aggregation. Some agencies maintain separate areas of procurement information, necessitating extensive system interfaces.
Process orientation	As indicated above, the acquisition process follows defined policies relative to the VPPA and other guidelines. DGS oversees acquisition from a Commonwealth-wide perspective. Subject to delegation authority and the dollar amount of orders, agencies are free to execute their own Acquisition activities.

Process Characteristic	Description
Sourcing arrangements	Most of the acquisition functions are performed in-house within each agency with the exception of large dollar purchases subject to approval levels.

Acquisition Strengths and Weaknesses

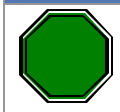
The Commonwealth's procurement application (eVA) has been recognized for its uniqueness in State government procurement. eVA has received numerous awards, including the National Association of State Procurement Officials (NASPO) 2003 Cronin Gold Award for Innovations in IT. A 2002 survey conducted by the Center for Digital Government ranked Virginia first in the country for the eVA electronic commerce initiative. The system has benefited the Commonwealth by achieving the dual goals of presenting a unified face to the vendor community and consolidating enterprise spend. In addition, eVA is arguably the only true enterprise application in the Commonwealth. eVA is now an established 'brand' in the Commonwealth.

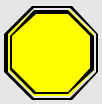
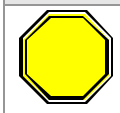
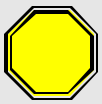
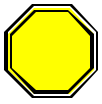
However, during the due diligence phase both survey responses and interviews identified that not all system users are satisfied with eVA. Numerous survey respondents identified weaknesses. Comments received from the survey and interviews point to lack of training, perceived functionality limitations, and significant extra effort.

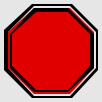
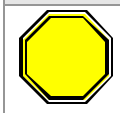
We observed the benefit that eVA brings to the Commonwealth and appreciate that it was a major accomplishment to establish eVA as a central clearinghouse for procurement data. We observed that it is undervalued by constituent agencies. Based on our findings in the below section that cover eVA as well as other findings, we identified opportunities for improvement across the acquisition area.

During the due diligence process, the agencies were asked to identify the specific strengths (designated by a green indicator) and weaknesses (designated by a red or yellow indicator) of the acquisition process. Table 2-24 is a summary of the feedback received from the agencies, the Commonwealth Partners assessment of the impact of the strength or weakness on the process, and the rationale for the designation. Unless specifically highlighted, the Commonwealth Partners concurs in the assessment of the Commonwealth staff.

Table 2-24: Acquisition Strengths and Weaknesses

Risk Indicator	Strength or Weakness Description	Impact	Rationale
	Enterprise-wide procurement system (eVA)	High	eVA is a Commonwealth-wide procurement system that consolidates spend data and provides a common interface to vendors. eVA is used as the primary procurement tool by a number of agencies in the Commonwealth. This includes agencies that have other agency specific systems (e.g. ERP systems) as well as agencies that do not have another system. eVA is used by 197 Commonwealth agencies and over 390 local government entities. eVA provides eVA provides an enterprise-wide procurement solution. All agencies are required to

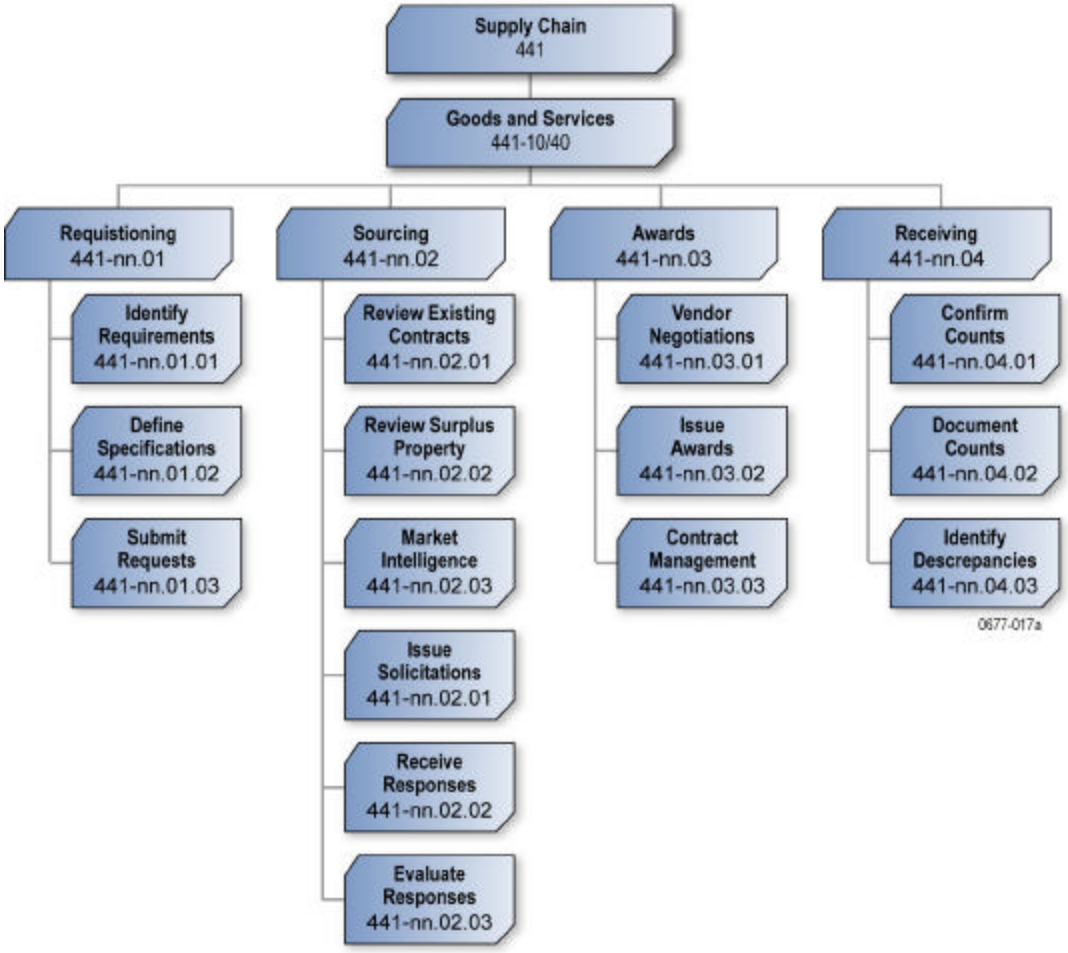
Risk Indicator	Strength or Weakness Description	Impact	Rationale
			send the majority of their procurement orders to the vendor through eVA whether or not they use eVA as their procurement tool. eVA provides an enterprise-wide repository for tracking and reporting procurement related activities. The consolidated information in eVA equips procurement professionals to better leverage the Commonwealth buying power through new contracts or renewals of existing contracts. A central repository for Commonwealth business opportunities that allows the vendor community to consult a single source of information when looking for new business opportunities.
	Multiple procurement systems	High	Some agencies use redundant agency-specific systems (e.g. ERP systems) to perform their procurement function. Agency procurement orders are then interfaced to eVA for electronic order delivery and to facilitate enterprise-wide reporting. Commonwealth agencies operate many ERP and/or procurement systems in addition to eVA.
	Lack of integration	Medium	eVA does not integrate well with inventory systems or invoice/payment processes. The eVA solution does not provide a complete requisition to payment process. In addition, eVA does not currently interface with other agency specific systems related to supply chain management. eVA does not currently interface with CARS or other agency specific systems such as inventory, equipment, and fleet management systems.
	SWAM requirements and reporting	Medium	Agencies find it difficult and time consuming, particularly for purchases less than $5,000, to identify certified SWAM vendors and to obtain the required number of quotes from SWAM vendors. In addition, SWAM compliance reporting is often an intensive manual process. Agencies consistently commented on the lack of certified SWAM vendors and on the lack of current statewide contracts with certified SWAM vendors. SWAM reporting is left to each agency and often involves significant manual work rather than being an automated central process.
	New initiatives	Low	Agencies are constantly challenged to keep staff educated on and comply with new and sometimes competing initiatives. Competing initiatives can also introduce inefficiencies in the procurement process. For example, agencies find it inefficient to utilize their small purchase cards (i.e. procurement card) when they are required to enter these transactions into eVA. Additionally, agencies do not always see the value in new initiatives. This is especially true when a new initiative has a business model that directly impacts the agencies. Examples of this include the VITA surcharge for IT acquisitions and the eVA transaction fee.

Risk Indicator	Strength or Weakness Description	Impact	Rationale
	Multiple vendor registration process	Medium	A vendor is often faced with multiple systems and processes when registering to do business with the Commonwealth. At a minimum, a vendor is directed to register in eVA. SWAM vendors must also register with the Department of Minority Business Enterprises (DMBE) to become SWAM certified. Certain agencies also maintain their own vendor registration process. These multiple processes make it time consuming, costly, and at times difficult, to get vendors to register to do business with the Commonwealth.
	Qualified and trained procurement personnel	Medium	Agencies report that it is difficult to identify, attract, and retain qualified procurement personnel. Agencies have also identified a need for improved training of existing personnel for both the procurement technologies and processes, particularly when new initiatives are introduced (e.g. eVA, VITA, SWAM). The Commonwealth procurement profession is facing an aging workforce. Agencies also have many vacant positions, which they have had difficulty filling. The Department of General Services operates a statewide learning management initiative that is targeted to the procurement community. However, agencies consistently identified the need for additional training for both procurement technologies and processes.

Acquisition Process Decomposition

The process decomposition chart Figure 2-21 was created based on information gathered during the due diligence phase of the Enterprise Applications PPEA. The decomposition is a composite of process entities gathered from the 38 responding agencies; thus, not all agencies necessarily perform each function.

Figure 2-21: Acquisition Process Decomposition Chart



2.4.2 Inventory Management

Process Characteristic	Description
Process Description	Inventory Management involves all activities related to tracking procured assets and resources, including maintaining information that identifies the quantity, quality and location of procured assets and resources. Inventory Management is highly decentralized within the Commonwealth. Each agency, and in some cases, departments have developed their own policies and processes for managing inventories of materials to support their specific mission. See Figure 2-22: Inventory Management Decomposition Chart, below.
Starting Points and Ending Points	Inventory Management begins with the Replenishment process. This sub-process identifies and acquires the inventory items that the agencies will require in order to fulfill their mission. Once acquired the stock items is received into inventory. Issues & Returns processes move inventory out to (and back from) end users. Billing processes charge fulfilled requisitions back to the agencies. Agencies with substantial inventories, such as VDC and VSP also provide for distribution to outlying facilities. Surplus inventory is sometimes identified and disposed of through a variety of methods. These processes represent the lifecycle of inventory within the Commonwealth. The Administration process provide under lying support for the Inventory Management process. Refer to Figure 2-22: Inventory Management Decomposition chart.

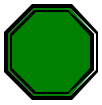
Process Characteristic	Description
Variations	The Commonwealth does not currently have a minimum standard or guidance for performing Inventory Management. The Commonwealth has promulgated a policy on CAFR requirements for reporting the value of year-end inventory balances. However, there are no other state-wide policies. Most agencies have developed their own management processes, financial controls and reporting requirements for inventory. There is no commonly accepted methodology or approach for controlling inventory. Few agencies with notable inventories have implemented guidelines for forecasting for item demand. Most agencies participating in the due diligence survey reported use of historical requisitioning patterns as the basis for ordering materials and justification for maintaining stock in inventory. A few agencies incorporate forecasts of business volume or significant events into their planning process. Most agencies participating in the due diligence survey indicated tendencies to stockpile inventory and noted that inventory is not frequently replenished but ordered in bulk. Most agencies place a premium on maintaining sufficient stocks of materials to meet their missions rather than optimizing inventory costs. The most common metric of assessing the Inventory Management process is the percentage of stock outages. Reorder points and quantities are often based upon local experience or anecdotal forecasts of demand. Less regard is given to actual inventory consumption and turn-over rates that is the opposite of best practices.
Blockages and fragmentations	During due diligence we found some instances where agencies use the same Inventory Management processes to control materials, equipment, fixed assets, and track personnel-assigned equipment. Some agencies over time have used their existing inventory control processes and applications to manage equipment. Some are also using these resources to also manage fixed assets and custodianship of personally-assigned equipment. These processes and systems were not designed with these capabilities in mind. As a result, management requirements are at best, partially supported. Agencies that maintain significant inventories also have the requirement to distribute stock to other agencies or stock rooms across the Commonwealth. In order to distribute material these agencies have assembled their own truck fleets and distribution networks. In one case (VDC), transportation services are outsourced. In all other cases, agencies are maintaining their own transportation capabilities. These range from small fleets of tractors and trailers to smaller box trucks and vans.
Points of process intersection, integration, and conflict	From the agencies surveyed during the due diligence, only a small number use an actual Inventory Management or warehouse management system. We found these tend to be the larger agencies. Most are using spreadsheets, Access databases, in-house systems, and/or manual logs. These diverse applications severely limit the amount of system integration or opportunity for such integration to occur. Process flow, information flow, auditing, performance measurement are all disjointed. At the point where Commonwealth processes intersect (i.e., Financial Management and Supply Chain Procurement) the handoff is mostly a manual effort.
Controls	Without enterprise-wide Inventory Management policies and procedures there is little or no control over inventory process, supporting applications, or management of the inventory content. Agencies tend to place a premium on maintaining sufficient stock of materials to meet their missions rather than optimizing inventory controls or costs.
Points of redundancy and duplication of efforts and data	The due diligence phase did not yield any data that specifically addressed redundancies and duplication. It is clear that process and supporting applications are fragmented and disjointed. Based on these facts we believe that there is a significant amount of redundancy in overlapping process as well as duplication of data especially since most of the inventory systems are not integrated. It would also not be unexpected that there would be inconsistency within the data as well.

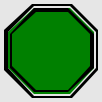
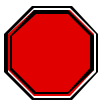
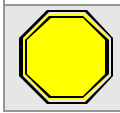
Process Characteristic	Description
System instances and interfaces	Agencies have invested in a variety of applications to track and manage inventory. These applications range from sophisticated agency-level systems to locally maintained spreadsheets and small databases. Inventory Management Applications currently in use in the Commonwealth include: ▪ Inventory and Product Sales ▪ Warehouse Management System Inventory ▪ Tracking System ▪ Syteline ▪ Oracle Financials ▪ FMS Perpetual Inventory ▪ PIPs Inventory ▪ AFMP ▪ PaRTS ▪ WebIMS ▪ Mapper Many of the Inventory Management systems within the Commonwealth are obsolete. In some cases, agencies are even relying upon old unsupported application and database releases. Several agencies reported frustrations with accessing data for reporting and analysis. Non-general fund agencies and departments are particularly frustrated by the lack of current applications and supporting technologies. With the exception of a few large agencies there are few electronic interfaces between the Inventory Management systems and other applications such as finance and procurement.
Process orientation	Even though some aspects of Inventory Management are centralized within DGS (i.e., VDC), the remaining agencies operate under their own policy and procedures. In most agencies Inventory Management is a supporting process to the agencies mission not its primary function. Therefore the emphasis is on having inventory availability as opposed to inventory control.
Sourcing arrangements	Most of the Inventory Management functions are performed in-house within each agency. The notable exception is VDOT that has recently out-sourced its parts inventory to MANCOR.

Inventory Management Strengths and Weaknesses

During the due diligence process, the agencies were asked to identify the specific strengths (designated by a green indicator) and weaknesses (designated by a red indicator) of the inventory management process. Table 2-25 is a summary of the feedback received from the agencies, the Commonwealth Partners assessment of the impact of the strength or weakness on the process, and the rationale for the designation. Unless specifically highlighted, the Commonwealth Partners concurs in the assessment of the Commonwealth staff.

Table 2-25: Inventory Management Strengths and Weaknesses

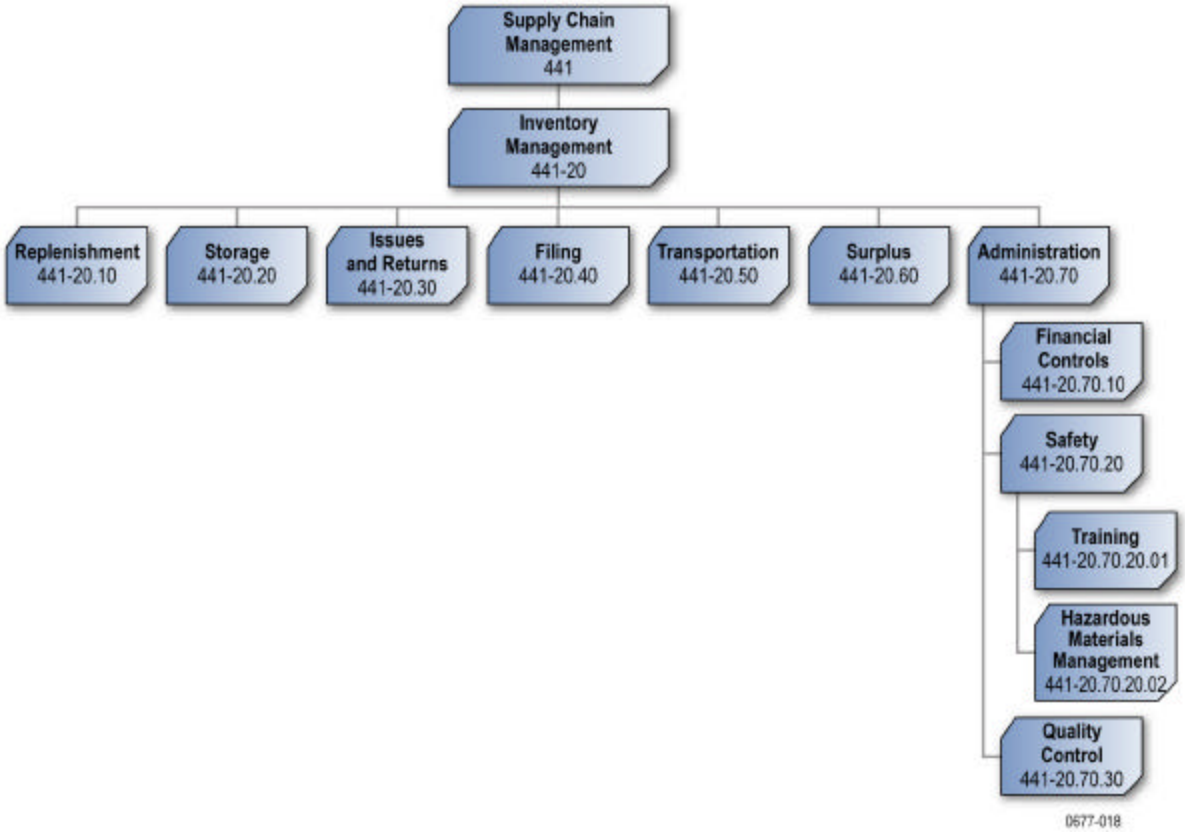
Risk Indicator	Strength or Weakness Description	Impact	Rationale
	Mission-specific Inventory Management systems	Med	Agencies have evolved a variety of manual and automated processes for tracking their inventories. Most agencies have developed their own Inventory Management systems to support their specific missions. Solutions range from agency-wide systems to locally maintained spreadsheets and databases.

Risk Indicator	Strength or Weakness Description	Impact	Rationale
	Financial control	High	Agencies surveyed have implemented a wide array of controls to help assure the financial integrity of their inventories. Agencies participating in this survey have implemented several types of security and accounting controls to monitor the disposition of inventory. These controls range from annual or semi-annual physical inventories to continuous sampling.
	No Commonwealth-wide policy for Inventory Management	High	There is not a minimum standard or guidance document for performing Inventory Management throughout the Commonwealth. There is no commonly accepted methodology or approach for controlling inventory such as: ▪ Demand forecasting. Few agencies with notable inventories have implemented guidelines for forecasting the demand for inventory items. ▪ Stocking levels. Most agencies participating in the survey tend to stockpile inventory. Most agencies place a premium on maintaining sufficient stocks of materials to meet their missions than optimizing inventory costs. ▪ Intermingling of inventory, equipment and custodianship management processes. We found some instances where agencies are using the same inventory management processes to control materials, equipment, fixed assets, and personal-assigned equipment.
	Non-shared and overlapping distribution channels across agencies	Med	Agencies that maintain significant inventories have assembled their own truck fleets and distribution networks.

Inventory Management Process Decomposition

The process decomposition in Figure 2-22 was created based on information gathered during the due diligence phase of the Enterprise Applications PPEA. The decomposition is a composite of process entities gathered from the 30 responding agencies. Thus, not all agencies are performing each function.

Figure 2-22: Inventory Management Process Decomposition Chart



Conclusion

The Inventory Management process across the Commonwealth is highly decentralized and non-standardized. There are virtually no Commonwealth standards for Inventory Management and at the same time, Inventory Management is supported by a diversity of technologies. Most agencies do not view Inventory Management as their primary mission, but as a supporting function. Therefore, the attention and support needed to achieve highly effective Inventory Management is not always present. Thus, the Commonwealth Partners believe that there is substantial possibility for improvements and cost reductions. The Commonwealth Partners also agree that the agencies managing inventory should be commended for their excellent job given their limited tools and resources.

2.5 Summary

The sections above outlined the "As Is" process strengths and weaknesses. Section 3 will take these strengths and weaknesses and provide solutions and enhancements to each strength and weakness. Section 3 also describes an overview of the enterprise solution.